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THE PSRO AND THE NURSING HOME: VOL. I, AN ASSESSMENT OF PSRO LONG-TERM CARE REVIEW

ROSALIE A. KANE, ROBERT L. KANE, DOROTHY KLEFFEL,
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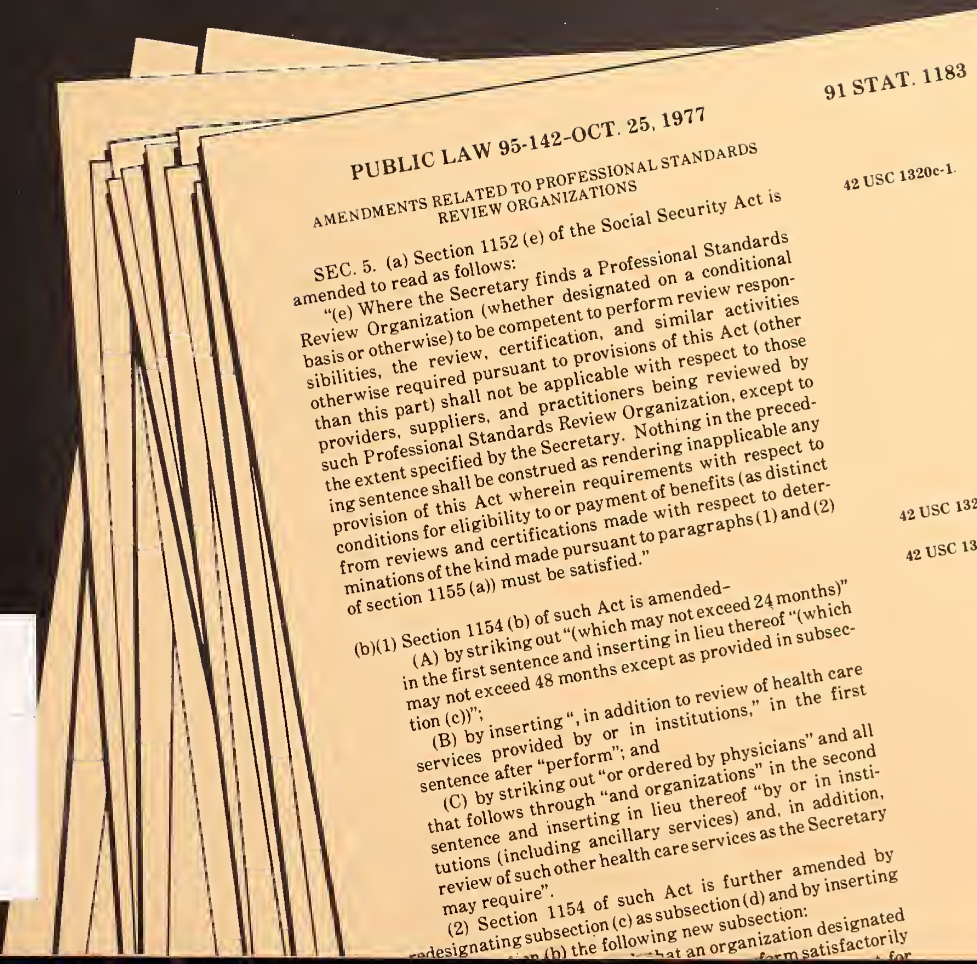
R-2459/1-HCFA

AUGUST 1979

PREPARED FOR THE HEALTH CARE FINANCING ADMINISTRATION,
U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE



PUBLIC LAW 95-142-OCT. 25, 1977

91 STAT. 1183

AMENDMENTS RELATED TO PROFESSIONAL STANDARDS REVIEW ORGANIZATIONS

42 USC 1320c-1.

SEC. 5. (a) Section 1152 (e) of the Social Security Act is amended to read as follows:

"(e) Where the Secretary finds a Professional Standards Review Organization (whether designated on a conditional basis or otherwise) to be competent to perform review responsibilities, the review, certification, and similar activities otherwise required pursuant to provisions of this Act (other than this part) shall not be applicable with respect to those providers, suppliers, and practitioners being reviewed by such Professional Standards Review Organization, except to the extent specified by the Secretary. Nothing in the preceding sentence shall be construed as rendering inapplicable any provision of this Act wherein requirements with respect to conditions for eligibility to or payment of benefits (as distinct from reviews and certifications made with respect to determinations of the kind made pursuant to paragraphs (1) and (2) of section 1155 (a)) must be satisfied."

42 USC 1320c-4.

42 USC 1320c-3.

(b)(1) Section 1154 (b) of such Act is amended–

(A) by striking out "(which may not exceed 24 months)" in the first sentence and inserting in lieu thereof "(which may not exceed 48 months except as provided in subsection (c))";

(B) by inserting ", in addition to review of health care services provided by or in institutions," in the first sentence after "perform"; and

(C) by striking out "or ordered by physicians" and all that follows through "and organizations" in the second sentence and inserting in lieu thereof "by or in institutions (including ancillary services) and, in addition, review of such other health care services as the Secretary may require".

(2) Section 1154 of such Act is further amended by redesignating subsection (c) as subsection (d) and by inserting

REPORTS
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The research reported herein was supported by the Health Care Financing Administration, U.S. Department of Health, Education, and Welfare, under Contract No. 500-78-0040.

LC Card No. 79-19745
ISBN 0-8330-0156-6

The Rand Publications Series: The Report is the principal publication documenting and transmitting Rand's major research findings and final research results. The Rand Note reports other outputs of sponsored research for general distribution. Publications of The Rand Corporation do not necessarily reflect the opinions or policies of the sponsors of Rand research.

Published by The Rand Corporation

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PREFACE

Since 1972, Professional Standards Review Organizations (PSROs), authorized under amendments to the Social Security Act (PL 92-603), have been responsible for reviewing the medical care received by beneficiaries of Medicare and Medicaid to ensure that such care is necessary, appropriate, and consistent with quality standards developed by the physicians in the PSRO areas. Funded and operated by the Health Standards and Quality Bureau (HSQB), a subagency of the Health Care Financing Administration (HCFA) in the Department of Health, Education, and Welfare, the PSROs initially concentrated on developing review programs within acute hospitals. In 1976, 15 PSROs received two-year demonstration grants from HSQB to test the feasibility of PSRO review in the nursing home, which accounts for a substantial proportion of health expenditures under Medicare and Medicaid.

In October 1978, The Rand Corporation entered into a contract with HSQB to assess the work of ten of these PSRO demonstration projects in long-term care review: Baltimore City PSRO; Bronx PSRO; Charles River PSRO (Wellesley, Massachusetts); Colorado Foundation for Medical Care; Foundation for Health Care Evaluation (Minneapolis); Multnomah Foundation for Medical Care (Portland, Oregon); San Joaquin PSRO (California); South Carolina Medical Care Foundation; Utah PSRO; and Vermont PSRO. This report contains our evaluation of the demonstration projects' activities, including cross-site comparisons on a number of characteristics. The lessons that we were able to extrapolate about PSRO long-term care review from the combined demonstration effort are noted throughout this volume and are summarized in the concluding chapter.

This report should be read in conjunction with its companion piece, R. Kane et al., *The PSRO and the Nursing Home: Vol. II, Ten Demonstration Projects in PSRO Long-Term Care Review*, R-2459/2-HCFA. The latter provides ten site-specific assessments, one for each of the ten demonstration projects.

SUMMARY

Under the Social Security Act amendments of 1972, Professional Standards Review Organizations (PSROs) were charged with the responsibility for assuring that the medical care received by Medicare and Medicaid beneficiaries is both necessary and consistent with quality standards established by local medical communities. Initially, PSROs emphasized reviewing the appropriateness of utilization and quality of hospital care but, to be designated as an Operational PSRO, they are also required to review nursing home care.

The current study concentrates on ten PSRO demonstration projects in long-term care (LTC) review; these two-year projects were fielded between October 1976 and September 1978 with a general mandate to develop and test long-term care review methods. The ten projects represent different kinds of PSRO areas in terms of size, nursing home population, history of the PSRO in the area, and relationships between the PSRO and the community. The cumulative experience of these ten projects indicates the state of the art of long-term care review and raises issues about the kinds of federal policy that might best support a PSRO long-term care review program.

A multidisciplinary research team from The Rand Corporation conducted an assessment of the demonstration effort. Our methods included analysis of all written materials produced by each demonstration project and an iterative process of site visits, which we used to conduct semi-structured interviews with a range of PSRO personnel, PSRO board members, state officials, nursing home representatives, and other interested parties. We also conducted 227 telephone interviews with representatives of the nursing homes that the PSROs were reviewing; this substudy gave us information on the PSRO review program from the perspective of the long-term care facilities involved. To obtain information about the cost of the review programs in a systematic way, we used a standard instrument across all sites. Similarly, we conducted cross-site analyses of the data collection forms and the review criteria developed by each program.

In our work, we particularly searched for evidence that might suggest the extent and nature of the effects of the PSRO review programs. For this reason we gave special attention to studies conducted by the PSROs themselves; in a few instances, we obtained raw data from selected PSROs and conducted our own analyses.

Volume I of this report contains background discussions about the purposes and processes of PSRO LTC review, cross-site comparisons of the ten projects, case studies of examples that particularly illustrate either innovative review methodology or efforts to establish the effectiveness of the review programs, and general conclusions drawn from the assessment of the total demonstration effort. Our cross-site information about nursing home perspectives (gleaned from telephone interviews with nursing home personnel) and the costs of review (collected on our own instrument) are also contained in Volume I.

Volume II contains site-specific assessments of each demonstration project. It consists of ten largely self-contained and fairly brief descriptions.

Our findings have been organized according to the programs typically conducted as part of a PSRO LTC review program; therefore, we have specific conclusions

and recommendations for the processes of preadmission review, admission review, continued stay review, concurrent quality assurance activities, medical care evaluation studies, and long-term care review data systems. Additionally, we have drawn conclusions pertinent to the entire PSRO LTC review process. These are presented in the last chapter of Volume I.

The ten demonstration projects were indeed able to develop review programs in nursing homes. Their experience indicated the many practical logistical problems and some difficult challenges presented by the need to develop valid and reliable measurement tools. There was wide variation in the approaches, emphases, and activities across the ten projects. Nonetheless, common themes emerged in terms of the issues identified by the projects and the strategies for developing programs. The projects used the demonstration period to develop review staff, physician committees, criteria for the need for care at the skilled and intermediate level, criteria for quality of care assessment, and relationships with state officials and the local nursing home communities. In the telephone interviews, the majority of nursing home personnel expressed largely positive perceptions about the effect of the PSRO on nursing home care. The demonstration period was too short, however, for the PSROs to demonstrate definitively that their activities bore a causal relationship to the appropriateness of utilization of nursing homes or the quality of care practiced in them. Here the PSROs faced problems of inadequate baseline data, lack of control groups, and the underdeveloped state of the measurement art in long-term care. PSROs were challenged to develop and refine measurement tools themselves and to engage vigorously in development of review technology. On the whole, the demonstrations met this challenge well. (We note, too, that the initial purpose of the demonstration projects was *not* to demonstrate effectiveness but to show the feasibility of PSRO long-term care review.)

In the demonstration period the PSROs moved toward refining level of care criteria to justify placement of patients at the skilled or intermediate level. Application of such criteria contributes to assuring that patients receive the level of service appropriate to their needs. Because of the reimbursement mechanisms for nursing home care, however, it is unlikely that PSRO level of care determinations will decrease public expenditure for nursing home care. We recommend, therefore, that utilization review focus on those most likely to be discharged from nursing homes and, further, that it emphasize the preadmission review process, which may prevent a nursing home placement in the first place.

The PSROs were able to identify distinct deficiencies in quality of care, and these were generally similar at each demonstration site. They included problems with the quality and quantity of physician care and the quality of nursing care. A concurrent quality assurance program (as opposed to a retrospective review process) was deemed critical to the nursing home review program. A registered nurse proved to be an effective individual to collect the data because of her ability to offer peer review to facility nursing staff as well as to provide information about compliance with criteria for the physician PSRO committee members. Nursing home personnel commented favorably about the continuous presence of the PSRO nurse reviewers as a positive impetus to quality, and impressive anecdotal evidence (from reviewer logs and notes) corroborates this view.

Quality of care assessment methods in long-term care still leave much to be desired. In general, more explicit criteria for both process and outcomes of care are needed. Taken together, however, the collective work of the demonstration projects has advanced the field. A few projects developed preliminary explicit process criteria for drug use. A number of projects built on previous work in acute care review to develop explicit process criteria based on clusters of diagnostically-related categories. One project developed some rudimentary but promising problem-focused outcome criteria. PSROs are less capable, at present, of assessing and assuring quality of care on psychosocial aspects of care, although, during the demonstration, beginnings were made in this direction.

PSROs experienced varying degrees of difficulty in engaging physicians in the LTC review process and in developing effective feedback and correction mechanisms to assure that quality of care recommendations were followed. Simultaneously, the projects identified issues related to developing peer review mechanisms for reviewing the care of nonphysician providers (e.g., nurses, facility administrators, social workers, PTs). For the physician and nonphysician alike, the quality assurance activities were complicated by the lack of normative information about nursing home patients. Generally speaking, the demonstrations were successful in broadening the scope of peer review to include providers other than the physician.

The demonstration experience suggests that, in addition to record review, the quality assurance program should include some direct assessment of patients by PSRO reviewers. This is needed both as a validity check and to tap psychological outcomes that nursing home records rarely address. We conclude that Medical Care Evaluation (MCE) studies can play only a limited role in LTC review. Their usefulness depends on application of meaningful criteria and incorporation of the MCE approach into a comprehensive quality assurance plan where the topics are derived from the concurrent quality assurance program and the results are communicated to the concurrent reviewers for feedback to facilities.

The demonstration projects, for the most part, did not develop the capacity to state whether their reviewers' recommendations, in terms of quality of care, were followed. We consider that a feedback loop for the review system is essential for external accountability as well as for internal planning.

Chapter 9 in Vol. I details the conclusions and recommendations of the study. Underlying all recommendations is an optimism that the PSRO has potential for affecting the appropriateness of utilization and the quality of nursing home care. We therefore advocate retention of the current policy that requires operational PSROs to conduct LTC review. However, the experience of the demonstrations suggests that LTC review programs take time to establish, and the federal government may be advised to permit PSROs to enter operational status contingent upon having developed an LTC review program by a specific date. Given the promising beginning of the demonstrations, it is imperative to preserve the incentive for PSROs to enter the long-term care review field.

ACKNOWLEDGMENTS

Many researchers at The Rand Corporation contributed to specific aspects of this study. Dennis Smallwood and Patricia Munch helped develop the strategy for evaluating the costs of the demonstration projects. Sandra Berry, Douglas Scott, Laural Hill, and Mary Morris made possible the series of telephone interviews with nursing home employees. Patricia Masthay served as computer programmer for the project. We are grateful to all these individuals.

We are indebted to T. Franklin Williams and Kathleen Williams Lohr for their critical reading of an earlier version of this report. We also thank John Beck, who provided us with useful comments in reaction to a draft version.

In her role as Project Officer, Dr. Ruth Covell was extremely helpful; she offered us the encouragement and practical help needed to complete this project within its restricted time frame.

We acknowledge a debt to the dozens of PSRO staff and board members at each site who helped arrange our visits, conferred with us, and shared both their ideas and their materials. Because our data gathering was collapsed into about four months, it placed an even greater burden on these people. We also acknowledge the cooperation we received from the PSROs in reviewing and commenting on our site visit reports and excerpts from a draft of this volume; although we accept the final responsibility for the contents, we appreciate all the input we received from the PSROs. Individuals representing other organizations in the PSRO areas were also very generous with their time. Not least important was the contribution of the 227 nursing home employees who shared their perspectives with us in lengthy telephone interviews.

Many people assisted us ably with the typing of this report, including Mary Devine, Roxanne Orly, and Toni Manthey. We are enormously indebted to Janice Jones, who did the lion's share of the typing, retyping, and proofreading and, for several months, permitted the working day to slide into the evenings and weekends to produce this manuscript.

GLOSSARY

ADL	Activities of Daily Living. These are activities basic to self-care, including toileting, feeding, dressing, ambulation, and transfer from bed or chair. Most of the PSRO projects developed measurements for assessing the extent to which patients could manage their ADLs independently. One indicator of the quality of nursing home care is the extent to which patients are rehabilitated in their ADL functions.
AR	Admission Review. A review and initial determination of a PSRO of the medical necessity and appropriateness of the patient's admission to an LTC facility and his/her level of care assignment.
AURC	Area Utilization Review Committee. Vermont PSRO divided the state into five areas for the purpose of LTC review and centrally administered one multidisciplinary AURC in each area. Each AURC was responsible for utilization review, medical review, and independent professional review.
BCPSRO	Baltimore City Professional Standards Review Organization. One of the ten LTC demonstration sites whose area includes the city of Baltimore, exclusive of Baltimore County.
BEDSIDE REVIEW	"Hands-on" (examination) or "hands-off" (observation only) assessment of the patient's condition to help determine the medical necessity, quality, and appropriateness of services.
BINDING REVIEW	Binding review means that the PSRO's decision determines whether the facility should be paid for the care it claims to have given based on medical necessity and appropriate level of care. The PSRO's review is binding on fiscal intermediaries and state agencies for payment purposes when the PSRO is found competent to assume review responsibility.
BPSRO	Bronx Professional Standards Review Organization. One of the ten LTC demonstration sites that includes the borough of the Bronx.
CAP COORDINATOR	Colorado Admissions Program Coordinator. Colorado PSRO review coordinators who performed preadmission review of patients in acute care hospitals before admission to long-term care facilities.
CDH	Chronic Disease Hospital. Long-term care hospitals (particularly in the Baltimore PSRO area) that provide highly skilled and rehabilitative services. This level of care is more highly skilled than that rendered by the skilled nursing facilities, but less skilled than acute care.
CFMC	Colorado Foundation for Medical Care. One of the ten LTC demonstration sites located in Denver and extending statewide.
CONDITIONAL STATUS	The Secretary of DHEW designates a PSRO on a conditional (trial) basis in order to determine the capacity of the organization to perform its duties and functions. All of the PSROs conducting LTC demonstration projects had conditional status as distinguished from planning status or operational status.
CORRECTIVE ACTION	Efforts made by the PSRO to correct deficiencies identified through review activities. Corrective action includes feedback to LTC facilities and educational activities.

COST-BASED REIMBURSEMENT	A method of payment of medical care programs for services delivered to patients. The amount of the payment is based on the costs to the provider of delivering the services.
CQA	Concurrent Quality Assurance. A process that ensures the appropriateness and quality of all health and support services rendered to the individual patient while he/she resides in an LTC facility. CQA is contrasted with the retrospective review of grouped data through procedures such as the medical care evaluation (MCE) study.
CR	Concurrent Review. Refers to admission review and continued stay review for both medical necessity and appropriateness of patient care while the patient is in the facility.
CRITERIA	Predetermined elements of health care that have been developed by health professionals who have drawn upon professional expertise, prior experience, and professional literature. Such criteria are used to compare aspects of quality, medical necessity, and appropriateness of health care. Criteria may refer to the process, outcome, or structural components of quality.
CRPSRO	Charles River Professional Standards Review Organization. One of the ten LTC demonstration sites located in a suburban area west of Boston covering communities represented by the Charles River District Medical Society and Middlesex West District Medical Society.
CSR	Continued Stay Review. A review and determination by a PSRO at intervals during a patient's nursing home stay of the medical necessity and appropriateness of continuation of the patient's stay at that level.
DECUBITUS	A decubitus (decubiti, in the plural form) is a skin ulcer, commonly known as a bedsore. Because decubiti commonly accompany inadequate nursing care of long-term patients, many of the demonstrations gave particular attention to this problem.
DELEGATION	The acceptance by the PSRO of the facilities' performance and findings of utilization review and quality of care assessment activities. Delegation is precluded for LTC facilities, except for those that are hospital-based.
DPH	Department of Public Health. A state department that is responsible for public health matters. Such a department sometimes contracts with DSS to perform certain professional components of the Medicaid program.
DSS	Department of Social Services. State welfare departments that are responsible for providing social services and often for welfare programs, including the Medicaid program.
DSW	Department of Social Welfare. In this report, the term is used in the same way as Department of Social Services (see DSS above). Nomenclature for this department varied from state to state.
EMCRO	Experimental Medical Care Review Organization. EMCRO's were projects funded by the National Center for Health Services Research in the late 1960s to test the concept of professional peer review. In this sense they were PSRO prototypes.
EXPLICIT CRITERIA	Predetermined, measurable elements of health care against which health services can be measured.
FEEDBACK	Findings and results of review activities communicated from the PSRO to facility staff by profiled data or one-to-one consultation for the purpose of assisting the facility to improve its performance.
FHCE	Foundation for Health Care Evaluation. One of the ten LTC demonstration sites representing the Minneapolis-St.Paul area and the northern half of Minnesota.

FISCAL INTERMEDIARY	A public or private agency, usually Blue Cross or a private insurance company, that enters into an agreement with DHEW to administer Medicare claims and perform other designated functions or with a state agency to perform some functions for a state Medicaid program.
FOCUSED REVIEW	A modification of review systems by decreasing concurrent review activity in areas of acceptable performance and concentrating or intensifying review resources on significant problem areas. This focusing may be done on the basis of past performance or on the basis of the results from preliminary screening activities.
GNP	Geriatric Nurse Practitioner. A registered nurse who has successfully completed an education program that meets the criteria specified in the "Guidelines for Continuing Education Programs for Geriatric Nurse Practitioners" developed by the American Nurses Association. The Colorado PSRO utilized GNPs for "hands-on" assessment of patients during their demonstration project.
HANDS-OFF ASSESSMENT	Observation of the patient during the review process to help determine the medical necessity, quality, and appropriateness of services.
HANDS-ON ASSESSMENT	A simple physical examination of the patient during the review process to assess the patient's condition. Such data are then used to determine the medical necessity, quality, and appropriateness of services.
HEALTH CARE ASSOCIATION	Formerly known as the Nursing Home Association, the Health Care Association is the major trade association of the nursing home industry. It is organized with a central national office and state and regional chapters.
HRCA	Hebrew Rehabilitation Center for Aged located in Boston, Massachusetts. HRCA provided technical assistance in research design to several of the demonstration PSROs.
HRF	Health Related Facilities. A term used in New York State for "ICF." HRFs are reimbursed in New York by Title XIX, except for the lowest level. They typically provide board, room, and personal assistance on a long-term basis but have a minimal medical component.
HSA	Health Systems Agency. A federally funded health planning and resources development agency in each designated health service area throughout the country. The Agency's functions include review and approval of proposed plans for health services and the use of federal funds designated for health.
HSQB	Health Standards and Quality Bureau. The bureau of the Health Care Financing Administration in the Department of Health, Education, and Welfare, which administers the PSRO program.
ICF	Intermediate Care Facility. An institution that provides health care and services to individuals who do not require the degree of care or treatment provided by a hospital or skilled nursing facility but do require some nursing home care.
IPR	Independent Professional Review. An interdisciplinary review of the need for the care and the services provided for ICF-level Medicaid recipients. The review includes personal contact and observation of each resident and is made at least annually.
IMPLICIT JUDGMENTS	Judgments regarding the quality of an activity that are made without reference to any stated explicit criteria or ordered scales; judgments depend on internalized standards or expertise.
LTC	Long-term Care. Health or personal care services required on a long-term basis (usually more than 30 days) by persons who are chronically ill, aged, disabled, or mentally retarded.

LTC FACILITY	A health care institution (or distinct part of such an institution) that is certified to participate in the Medicare and/or Medicaid program as a skilled nursing facility (SNF) or intermediate care facility (ICF).
LOC	Level of Care. The frequency, intensity, and skilled nature of services needed by the patient that determine the necessity and appropriateness of patient placement. Examples of levels of care are acute, skilled, intermediate, and rehabilitative.
LOS	Length of Stay. A measure of utilization equal to the number of days a patient is institutionalized, calculated by subtracting the admission date from the discharge date.
LPN (LVN)	Licensed Practical Nurse (Licensed Vocational Nurse). A graduate of a practical nursing program, usually a 1-year training program with high school graduation as a prerequisite. LPNs are licensed by the states.
MCE	Medical Care Evaluation Study. An in-depth, usually retrospective, study of the quality and/or the utilization of health care services. Usually, a number of cases on a selected problem are reviewed to establish the pattern of care for the problem in question. Corrective action is taken where indicated, and a subsequent study is made of the impact of the corrective action. PSROs are responsible for performing at least one MCE study per calendar year in each LTC facility.
MFMC	Multnomah Foundation for Medical Care. One of the ten LTC demonstration sites that includes much of Portland, Oregon.
MEDICAID	Health care payments provided under Title XIX of the 1965 amendments to the Social Security Act for persons of all ages who are eligible for welfare or are medically indigent. This program is funded from federal and state revenues in varied proportions. General federal standards can be augmented by individual state requirements. Most public funds for nursing home care come through Medicaid. The program is administered by state health or welfare agencies.
MEDI-CAL	The Medicaid program in the State of California.
MEDICARE	Health care insurance as provided under Title XVIII of the 1965 amendments to the Social Security Act for people over 65 years of age, and some under 65 who are disabled. The program is administered by the Social Security Administration. Part A of this program provides only limited skilled nursing home benefits while Part B covers physician care. No ICF care is covered under Medicare.
MINIMUM DATA SET	A minimum aggregation of uniformly defined and classified statistics that describe an aspect of health care.
MIS	Management Information System. Refers to a data system that provides information on the operation of the review system rather than patient and provider profiles.
MOU (MOA)	Memorandum of Understanding (Memorandum of Agreement). An agreement outlining roles and responsibilities between agencies. MOUs are often made between PSROs and fiscal intermediaries, state agencies, or health facilities. These are the vehicles by which the state can allow PSROs authority to conduct binding review in ICFs, as provided by the law.
MR	Medical Review. A review of skilled nursing home patients, required by Medicaid. A team of physicians and other appropriate health and social service personnel assess the condition and need for care of each patient in a long-term care facility.

MSW	Master of Social Work. A degree signifying completion of a masters program from an accredited school of social work and connoting expertise regarding psychosocial problems. An MSW is differentiated from a bachelors degree in social work (BSW) from accredited undergraduate programs and from the use of the term "social worker" or "caseworker" without either of these formal credentials.
NATIONAL PROFESSIONAL STANDARDS REVIEW COUNCIL (NPSRC)	This council, composed of physicians appointed by the Secretary of DHEW, advises the Secretary in the administration of the PSRO program.
NORMS	Numerical or statistical measures of the usual, observed performance of health care services. These levels can be used to create standards.
OPERATIONAL STATUS	After a PSRO has demonstrated its competency to perform its duties and functions, it may be designated as operational by the Secretary of DHEW. A PSRO must have demonstrated its capacity to perform all phases of review, including LTC review, before achieving operational status. No PSRO in the country has yet been designated as operational.
OT	Occupational Therapist. A specially trained individual who evaluates the self-care, work, and leisure performance skills of disabled patients and plans and implements programs designed to restore, develop, and/or maintain the patient's ability to accomplish activities of daily living.
OUTCOME EVALUATION	Evaluation of the results of health services in terms of patient mortality, morbidity, level of function, psychological morbidity, etc. This emphasis looks at the results of care, not at the care itself.
OUTLIER	An LTC facility or provider rendering care well outside the range of acceptable performance. Outliers may fall on the positive or negative side of a distribution, but only the latter pose problems for quality control.
PA	Physician Advisor. A physician member of the PSRO (staff or consultant) who agrees to serve as a reviewer of cases that present questions of medical necessity or level of care. The physician advisor is the only person authorized to render an adverse determination. Review coordinators suggest cases to the physician advisor for such determinations.
PACE	(1) Physician Ambulatory Care Evaluation. A computerized system used by the Utah PSRO to tap into Medicaid billing claims to screen for quality of care. Part of their system was used to monitor drugs given to nursing home patients. (2) A set of federally sponsored forms for patient assessment and classification in LTC. A revised version (PACE II) is designed to facilitate patient care management.
PAF	Patient Assessment Form. A form used by both the Vermont PSRO and the Charles River PSRO for the assessment forms they completed at the time of each review.
PAP	Preadmission Planning. A mechanism used by the Minneapolis PSRO to ensure appropriate placement and provide preliminary care planning before a patient is admitted to an LTC facility. Comprehensive data were gathered from the patient.
PAR	Preadmission Review. A review of the appropriateness of a patient referral to an LTC facility prior to his admission to the nursing home (usually from a hospital).
PCE	Patient Care Evaluation Study. Same as a Medical Care Evaluation Study.

PEER REVIEW	The process by which various disciplines evaluate the appropriate quality of health care offered by their own profession in accordance with established standards of practice.
PL 92-603	The Social Security Amendments of 1972 that amended Title XVIII (Medicare) and Title XIX (Medicaid) and created Title XI, Part B, establishing the PSRO program.
PL 95-141	"Medicare-Medicaid Anti-Fraud and Abuse Amendments." This public law gave PSROs the authority to review SNF but did not award PSROs review responsibilities for intermediate care facilities (ICFs) unless the state agency requests that they assume review or unless DHEW finds that the state agency is not conducting effective review.
POP	Problem-oriented Planning. The ongoing care planning component of the Minneapolis PSRO LTC program. This was a multidisciplinary, highly structured approach to patient assessment, care planning, and monitoring of progress. It included a statement of provider expectation regarding the level of outcome achievable.
POQA	Problem-oriented Quality Assurance. A facility-based data system used by the Minneapolis PSRO for evaluating the quality of care delivered in LTC facilities. It involved both internal review of care and feedback of data from other components of the PSRO system (i.e., PAP and POP).
PRN	"When needed," e.g., in instructions regarding medications.
PROCESS EVALUATION	Evaluation of what a provider does to and for a patient, e.g., treatment for decubiti. Focus here is on diagnosis and treatment. This assumes that professionally accepted methods of practice will lead to good results.
PROFILE	An aggregation of data in formats that display patterns of health care services over a defined period of time. In long-term care, profiles displayed by facility or physician or patient characteristics permit comparisons to be made and differences in patterns of care to be observed.
PSRO	Professional Standards Review Organization. The PSRO program was established by PL 92-603 to ensure the medical necessity, quality, and appropriate utilization of health care services provided to beneficiaries of Medicare, Medicaid, and Maternal and Child Health Programs.
PT	Physical Therapist. A specially trained individual who uses physical activity and assistive devices in relieving pain, restoring maximum functioning, and preventing disability following disease, injury, or loss of a body part.
RC	Review coordinator. A person, usually a nurse, employed to perform review in health facilities.
RECONSIDERATION PROCESS	A process available to the patient (or his/her designee), attending physician, and facility administrator to achieve reconsideration of an adverse decision initially made by the PSRO.
RELIABILITY	The reproducibility of a result or an observation, i.e., how closely a second experiment or observation conducted under the same circumstances yields the same answer. Threats to reliability include both variation in the subject being observed and variation in the performance of the observer.
RETROSPECTIVE REVIEW	A review of care after the care has been given, and possibly after the patient has been discharged.
SCMCF	South Carolina Medical Care Foundation. One of the ten LTC demonstration sites, a statewide PSRO located in Columiba, South Carolina.

SEARCH	Rhode Island Health Services Research, Inc. SEARCH provided evaluation of and technical assistance to the LTC demonstration during the first year of the project period through a contract with HSQB.
SJPSRO	San Joaquin Professional Standards Review Organization. One of the ten LTC demonstration sites located in Stockton, California and consisting of five counties clustered around San Joaquin County.
SKILLED SERVICE	A service that requires the skills of a qualified nurse or therapist for the safe and effective provision of care.
SNF	Skilled Nursing Facility. An institution that is primarily engaged in providing skilled nursing care for patients who require medical or nursing care or rehabilitative services. The definition of skilled care relates to the level and intensity of nursing services required.
SOCIAL SERVICE DESIGNEE	A staff member of a long-term care facility designated to provide social services under the direction of a social work consultant. This individual does not necessarily have formal social work education.
SRS	Social and Rehabilitative Service. An administrative unit at the federal level and in some states that manages welfare and related programs, including Medicaid.
STANDARDS	Professionally developed expressions of the range of acceptable variation from a norm or a criterion
STRUCTURAL EVALUATION	Evaluation of a facility or organization in terms of descriptive characteristics, such as numbers and qualifications of personnel, presence of a record system of a given type, or the space allotted per patient. Licensing surveys and Medicare certification utilize structural evaluation to a large extent.
TITLE XVIII	The Medicare Program. See Medicare.
TITLE XIX	The Medicaid Program. See Medicaid.
UPRO	Utah Professional Review Organization. One of the ten LTC demonstration sites, located in Salt Lake City and covering the entire state of Utah.
UR	Utilization Review. The process of determining the medical necessity and appropriateness of patient care.
VALIDITY	The degree to which data or results of a study are correct or true. The extent to which a measure actually reflects that which it purports to measure.
VARIATION	Not in agreement with a standard. A variation may exceed the standard (acceptable) or fall short of the norm (unacceptable).
VARIATION ANALYSIS	A term used to describe the process of analyzing performances that are discrepant with the quality of care criteria. Analyses are made to determine whether such discrepancies are justifiable or whether they represent deficiencies in the quality of care. For example, in the typical MCE study, data were collected by data abstracters and the variation analysis was performed by a committee of the PSRO.
VPSRO	Vermont Professional Standards Review Organization. One of the ten LTC demonstration sites, located in Burlington, Vermont, and extending throughout the State of Vermont.
WAIVER	A term used to connote the discretionary ability of the fiscal intermediary or the state agency to waive the requirements for reimbursement at a given level of care and, under special circumstances, to reimburse for care not ordinarily covered under Medicare or Medicaid.

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Chapter 1

INTRODUCTION

GENERAL PURPOSE

Since 1972, Professional Standards Review Organizations (PSROs) have been major vehicles through which the country has authorized groups of physicians to monitor the quality and quantity of the medical services provided to the beneficiaries of the Medicaid, Medicare, and Maternal and Child Health Programs. At current writing, over 190 PSROs are either in their planning phase or have achieved conditional status; for the most part, PSROs have concentrated on the review of hospital care. To go from conditional to operational status, however, a PSRO must also carry out review activities in the skilled nursing facilities (SNFs) in its region.

In recognition of the complexities inherent in developing a long term care (LTC) review program, the Health Standards and Quality Bureau (HSQB) funded a series of PSRO demonstration projects to facilitate exploration of the many ramifications of LTC review.[1] Consequently, in 1976, 15 PSROs received funds to conduct demonstrations of LTC review; each demonstration was permitted considerable latitude in developing its particular emphasis. The projects performed their demonstration work between October 1976 and September 1978 (with the exception of Minneapolis PSRO, which received an extension of several months for data analysis).

Originally HSQB had planned that all 15 demonstration projects be evaluated in terms of their contribution to the developing field of PSRO LTC review. A number of projects, however, had been funded for more narrowly defined activities (e.g., development of criteria for psychiatric review), and several others experienced a considerable lag in beginning their LTC review programs. By the end of Year 1, therefore, HSQB decided to limit the comparative evaluation to a consideration of ten of the demonstration projects, and the other five were not included in the evaluation sample.

In October 1978, The Rand Corporation undertook the task of assessing the ten designated demonstration projects, including individual assessments of each project in terms of whether it achieved its own objectives and a general assessment of the state of the art of LTC review as revealed by the accumulated work of the demonstrations. This two-volume report contains the results of that assessment and all individual assessments, the cross-site comparisons, and a number of substudies that Rand performed in order to add to the knowledge derived from the demonstrations. Our approach has been to aggregate information in a way that suggests recommendations about future activities that HSQB might undertake in the long-term care PSRO context.

CHALLENGES OF LONG-TERM CARE REVIEW

Before we assess the PSRO long-term care demonstration projects, it is important that we put the study in context by describing some of the challenges involved in LTC review. To do so, we shall briefly describe the expected scope of PSRO activity in a fully developed LTC review program, the history of the PSRO in LTC review, and the ways that LTC review might be expected to differ from hospital review.

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[1] The PSRO LTC review programs have developed a somewhat specialized vocabulary. The unfamiliar reader is referred to the Glossary for definitions of acronyms and other terminology.

Activities in a Long-Term Care Review System

The PSRO's mandate involves the difficult role of keeping one eye on husbanding the public's medical dollars and the other on assuring that the money is buying care that is consistent with local standards for quality. The terms "utilization review" and "quality assurance" separate the two parts of this dual task; however, in practice, the utilization review and quality assurance activities often overlap.

Generally speaking, when a PSRO has become fully involved in LTC review, it has developed the following program elements:

1. *Preadmission Review (PAR).* A review of the appropriateness of the referral to a nursing home performed before the patient is transferred from an acute facility (e.g., hospital) to a nursing home.
2. *Admission Review (AR).* A review of the appropriateness of the admission and an assignment of the correct level of care (LOC)—skilled or intermediate—immediately after admission.
3. *Continued Stay Review (CSR).* Review of the appropriateness of continuing care in the nursing home and the determination of the correct level of that care at regular intervals as required by the PSRO.
4. *Concurrent Quality Assurance (CQA).* Periodic review during which the care received by the patient is compared against criteria for performance developed by the professional community. When deficiencies are revealed, feedback is offered as appropriate to facility administrators, nursing staff, or physicians. Concurrent quality assurance activities are often conducted at the same time as the continued stay reviews for a particular patient.
5. *Medical Care Evaluation Studies (MCE Studies).* Retrospective audits of groups of nursing home patients that compare the quality of care delivered against criteria of performance developed by the professional community. When such audits reveal deficiencies, a PSRO is expected to facilitate correction of the deficiencies and then perform a restudy to determine whether the quality of care has indeed improved.
6. *Profile Development.* Display of information about patterns of care and problems across nursing home facilities and providers. Capacity to generate profiles requires development of a data base and a management information system.

These activities (except for concurrent quality assurance) closely mirror the activities used by PSRO for monitoring the quality and quantity of hospital care. At the time HSQB awarded contracts to the demonstration projects, however, the guidelines delineating these activities for PSROs in LTC had not been promulgated. During the two years of the demonstration, various PSRO transmittals and interpretations of policies that appeared in the professional literature confirmed that these activities were the expected ingredients of an LTC review system (Jessee, Ford, and Tebbutt, 1976; Goran et al., 1976).

HISTORICAL CONTEXT OF PSRO LONG-TERM CARE REVIEW

To provide a context for examining the ten demonstration projects, one must consider both the requirements of the authorities with which PSRO must deal and the gradual promulgation of directives for the PSRO at the same time as the demonstration projects were functioning.

States have licensed LTC facilities for decades. Each state is responsible for defining and insuring minimal standards of safety in its LTC facilities; this usually means that states conduct annual surveillance of both the structure of the building used by the LTC facility and the structure of care in it (presence of medical record systems, care plans, adequate procedures for dispensing drugs, adequate staffing ratios, and so on).

With the introduction of Medicare and Medicaid (Titles XVIII and XIX) in 1966, the infusion of federal dollars into LTC facilities brought an era of federal regulation involving development of minimal federal standards. Compliance was a prerequisite to receive federal funds. In 1967, Congress stipulated that states must incorporate federal standards into their LTC review programs. In December 1971, PL 92-223 transferred payment for a class of nursing home patients not needing skilled care from Title XI, Part A, to Title XIX, thus forming the intermediate care category. PL 92-603, passed in 1972, required ICFs to meet federal standards. Providers for some types of Medicaid patients then needed to meet both federal and state standards. These standards increasingly focused on patient management issues, requiring facilities to demonstrate that they met the medical and psychosocial needs of each beneficiary of Medicare and Medicaid.

In addition to requirements for levels of staffing, the presence of utilization review (UR) committees, patients' records, and other such structural concerns, Medicaid required that each skilled nursing facility (SNF) patient receive an independent medical review (MR) under the direction of a physician to assess the appropriateness of continued skilled care and that each ICF patient receive a similar, although less extensive, independent professional review (IPR). These requirements, translated into action, meant that the state review agency made an annual onsite inspection to each LTC facility with a team of professionals to review the services each patient received. The details of these evaluations are discussed in the Final Report of the Long-Term Care Demonstration of the Minneapolis Foundation for Health Care Evaluation (Hendrickson and Gustafson, 1979).

During this period when state and federal requirements were being refined, the PSRO enrollment in LTC was also developing in a parallel, but at times separate, course. The PSRO emphasized peer review of professional performance rather than institutional monitoring as the road to assuring appropriate utilization and quality of nursing home care. Peer review was enunciated as a concept in the late 1960s, and by 1970 the National Center for Health Services Research had funded a program of Experimental Medical Care Review Organizations (EMCROs) that became models of physician-run organizations that did peer review on an areawide basis. PL 92-603 established the PSRO program in 1972 with a mandate to assure that the care provided to Medicare and Medicaid patients met standards of "appropriateness" in terms of medical need and level; as one of the benefits of Medicare and Medicaid, nursing home care was included.

The debate preceding the establishment of PSRO concentrated rather heavily on waste and abuse within the Medicare and Medicaid programs rather than on quality assurance. A Senate Finance Committee Report of 9/26/72, which identified the purpose of PSRO as assuring that publicly financed health services are medically necessary, appropriate, and of acceptable quality, emphasized the importance of reducing federal cost by eliminating unnecessary services. Surgery and hospitalization were cited as commonly overutilized services. LTC review was not referred to explicitly, although one might infer that the Committee viewed all services paid for by Medicaid and Medicare to be subject to the same kinds of abuses.

Truax (1977) traces the history of the subsequent interpretation of the PSRO legislation. Related federal regulations, which explicate the original statutes in more detail and have the force of law, have been published on eight occasions since the enactment of PL 92-603. With one exception, these made no reference to the purpose of the program; in January 1977, in a preamble to a regulation on the Notice of Proposed Rulemaking, however, the program objectives were described in language approximating the original statute—review of medical necessity, quality, and appropriateness. Here quality was specifically defined as the meeting of professionally recognized standards of care, and appropriateness was defined as the possibility that services could not be provided at a lower cost in an alternative setting. Although this regulation was promulgated in the context of acute hospital review, the latter definition has major implications for LTC.

Although they do not carry the force of law, PSRO program issuances (e.g., the PSRO program manual, transmittals, and memoranda) greatly influence the local PSROs because they reflect policies and standards that will be enforced through funding decisions and because they express operational definitions of the more vaguely stated program goals. In September 1974, the National Professional Standards Review Council endorsed a draft chapter of the PSRO program manual on the subject of long-term care review, but it was never officially issued as part of the program manual. That chapter provided the earliest quasi-official indication of program policy in the area of LTC review; it recommended three essential program components: (1) review of LTC admissions and periodic reassessment of care; (2) Medical Care Evaluation Studies in LTC facilities; and (3) analysis of institution, practitioner, and patient profiles. Also, the draft chapter contains an ambitious goal: that a primary objective of PSRO in LTC is to insure that each patient "receives a medical, nursing, and psychosocial evaluation and is placed in the facility most appropriate to the patient's medical, nursing, and medically related social and emotional needs." This statement is a harbinger of the emphasis on quality that became part of the PSRO LTC review programs and the broad mandate that the PSRO establish a variety of review approaches in LTC facilities.

In 1976, the Office of the General Counsel of HEW issued an opinion that conducting LTC review was a prerequisite for a PSRO gaining operational status. Draft guidelines for LTC review were circulated in 1976 and in a revised form in 1977; these were more stringent and specific than in the 1974 draft chapter. They were designed at least in part to permit the PSRO to supersede the existing utilization review requirements mandated by federal statutes to be performed by Medicaid and Medicare agencies. The PSRO LTC demonstration projects came into being at about the same time as the first draft regulations were released by HSQB and were in their second year when Transmittals 62 and 63 made the guidelines official early in 1978. The demonstrations were faced with the twin tasks of demonstrating LTC review while being responsive to anticipated and actual guidelines.

Although it was not HSQB's intent to require the LTC demonstrations to adhere to the developing guidelines, the projects were sensitive that the guidelines themselves were responses to legislative changes and that it was therefore in the interest of the PSRO to adapt to the guidelines embodied in the transmittal. In some cases (e.g., the prohibition of delegated review in LTC), the transmittals severely threatened the utility of given projects.

In general, the guidelines in Transmittals 62 and 63 carried forward many of the components of acute hospital review into the LTC sector. During 1976, however, a number of articles by PSRO program officials (Goran et al., 1976; Jessee, Ford, and Tebbutt, 1976) appeared in professional journals emphasizing the potential effect of LTC review on quality and drawing attention to the ways in which LTC review differs from hospital review. Both the professional journal articles and the PSRO transmittals seem to represent a shift from a cost-saving, abuse-reducing frame of reference at the heart of the debate over PL 92-603 to a positive tone stressing upgrading quality across the whole spectrum of LTC facilities.

With the expectation that eventually LTC review would be a required program element, some of the PSROs that later received a LTC demonstration project (San Joaquin, Multnomah) had begun giving LTC some attention even before the October 1976 initiation of the demonstrations. One PSRO (Colorado) had even made LTC review a major theme in the early 1970s when it was an EMCRO. Other PSROs that would be awarded LTC demonstration projects were not as well developed organizationally and had just established acute review when their demonstration contracts in LTC were awarded. Regardless of the length of time the particular PSRO had been active in LTC, each demonstration had to reconcile its developmental activities with the evolving PSRO guidelines and actual federal requirements contained in the Medicare and Medicaid regulations for LTC. In addition, there were no clearly articulated federal expectations at the beginning of the demonstration projects against which the ten projects could eventually be measured.

State agencies, too, were in a period of sometimes painful transition during the demonstration years. In 1976, it was not clear whether PSRO review would be additive or substitutive for the MR and IPR carried out by the state certifying bodies. It was also (and still is) not clear to what extent the PSRO activities would duplicate the states' licensure surveillance programs. Before the demonstration ended, however, PL 95-142 clarified that PSRO could supersede, and thus eliminate, the need for other certification of SNF patients (e.g., medical review for Medicaid patients). In the case of the ICF patients, however, state Medicaid agencies (with several exceptions) were permitted, but not required, to transfer their authority to the PSRO. The extent to which Medicaid agencies wished to do so depended partly on their own history, expertise, and investment in LTC review. In some instances, too, Medicaid agencies, aware of how ICF placement fills a social necessity, were reluctant to entrust utilization review to an organization whose mission was cast in terms of medical necessity.

In summary, the PSRO demonstrations entered the field subject to (1) very general initial mandate, (2) periodic issuances from HSQB interpreting PSRO purpose and function in LTC, and (3) the need to form agreements with state agencies who themselves were uncertain about the future directions of PSRO. With these conditions, the disagreements over jurisdiction among governmental agencies and PSROs that might have been predicted did, in fact, occur. The LTC facilities, vitally concerned with this debate, also entered the fray through their professional associations and lobbyists. Thus, the highly politicized environment of the demonstrations was not ideal for the development and testing of a new review technology.

LONG-TERM CARE COMPARED WITH HOSPITAL REVIEW

Long-term care is characterized by a number of features that create practical and philosophical difficulties for transferring review programs developed in the hospital to the nursing home setting. These problems are summarized below:

1. There are many more LTC facilities than hospitals in a given PSRO region (nationally a four-fold difference), and thus the review system must enter into more institutions and deal with more geographically dispersed administrative entities. Although hospital review by law may be delegated, nursing home review may not be. Because PSROs are not permitted to delegate the review functions to the LTC facilities (unless the facility is attached to a hospital), the logistics of developing an economical approach to review are staggering.
2. Compared with hospitals, LTC facilities are often small, have low staff patient ratios and high personnel turnover, and lack the technological or research base that has made the hospital a somewhat more congenial environment for PSRO.
3. The relationship of the physician to LTC facilities differs in two ways from his relationship to the hospital. First, there is less physician interest and involvement in the management of the LTC facility and its patients. Second, both because of the first factor and because of the indeterminate bounds of complete care (both physical and psychosocial) included in much of LTC, delivery of care is dependent on the actions of nonphysicians to a greater extent than is hospital care. Nurses, administrators, social workers, physical therapists, and others are all delivering care, often with very little direct physician involvement (e.g., the physician sees the patient only once a month or less) and a workable review system must be interdisciplinary in terms of its management structure, its review focus, and its feedback. Because the PSRO is a physicians' organization, LTC affords the double challenge of (a) getting physicians involved when they have not been interested and (b) getting physicians interested in involving other health professionals.
4. The nature of the patients in LTC facilities necessitates that criteria building will be difficult. Patients have multiple diagnoses and often are not expected to recover or return to the community. Patients' needs mandate that they receive services not generally considered medical. The nursing home becomes a dwelling-place and, therefore, the effect of its care on the psychological and social well-being of the patient is very important. Unfortunately, such factors are elusive to measure, and criteria that capture this appropriately expanded definition of quality of care are difficult to create.
5. In hospitals the PSRO uses records extensively for the conduct of UR and MCE studies. In LTC facilities the medical records are often in an underdeveloped state and thus are much less useful as sources of information for review.

Although these difficulties do indeed pose grave challenges, there are also some characteristics of LTC review that have possibilities of offering great rewards to PSRO staff. Because the patients tend to be long-term patients, the patient's care is usually reviewed while he or she is still in the facility. Thus, a concurrent quality assurance program can more readily be built into the UR program and a PSRO can expect to affect the actual care received by those patients being reviewed. Furthermore, because of the decentralized nature of nursing homes, their dependence on poorly educated staff, and the great diversity of difficult physical and psychological problems with which the nursing home contends, the PSRO is in a good position to serve as a technical resource. Of course, this opportunity poses its own difficulty because a high degree of human relations skill is needed to juggle the function of utilization review (which has a direct effect on the income of the facility) and education toward quality assurance. If the occupancy rate in LTC facilities is high, the conflict between the two PSRO functions may be less.

THE PSRO LONG-TERM CARE REVIEW DEMONSTRATIONS

The LTC demonstration projects entered this confusing area with no particular requirements other than to demonstrate the feasibility or characteristics of some aspect of LTC review. In preparing their original demonstration applications, the PSROs were free to select particular aspects of the problem and to concentrate on selected activities—there was no expectation that each PSRO demonstration would introduce all aspects of a possible program or that it would become active in all facilities in the PSRO region. Under the terms of the demonstration contracts, the PSROs were not obligated to demonstrate their effectiveness or their effect on utilization or quality of care.

As might be expected under the above conditions, the demonstration sites differ markedly, both in their descriptive characteristics and in the approaches that they took to the problem. The ten sites completing LTC demonstrations include rural areas (Vermont, San Joaquin, Calif.), a suburban area (Charles River, Mass.),[2] populous urban areas (Baltimore, the Bronx), and urban/rural mixes (Colorado, Utah, Minneapolis, South Carolina). Included are statewide PSROs (Utah, Colorado, Vermont, South Carolina) and PSROs that are confined geographically such as Multnomah (Portland, Oregon). The sites varied on many other dimensions including the history of the PSRO, the characteristics of the LTC population, the prevailing state regulations, and so on.

Similarly, the demonstrations adopted different strategies ranging from binding review for both Medicare and Medicaid LTC patients through the entire region (South Carolina) to a controlled experiment with nonbinding LTC review in a small number of facilities (Minneapolis); there were many combinations and variations between these two extremes. Such diversity renders direct comparisons among sites hazardous. As Chapter 2 indicates, we did not approach the task with the assumption that a single model would be sufficient to guide PSROs in the development of LTC review projects. We hoped that the experience of each demonstration would enhance general understanding in a developing field. At the same time, cross-site comparisons and contrasts were made whenever possible because each of the demonstrations had to address, in some form, the same conceptual issues.

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[2] Although we refer to the Charles River PSRO for convenience as "Charles River", it is not a place name.

CONCEPTUAL ISSUES IN LTC REVIEW

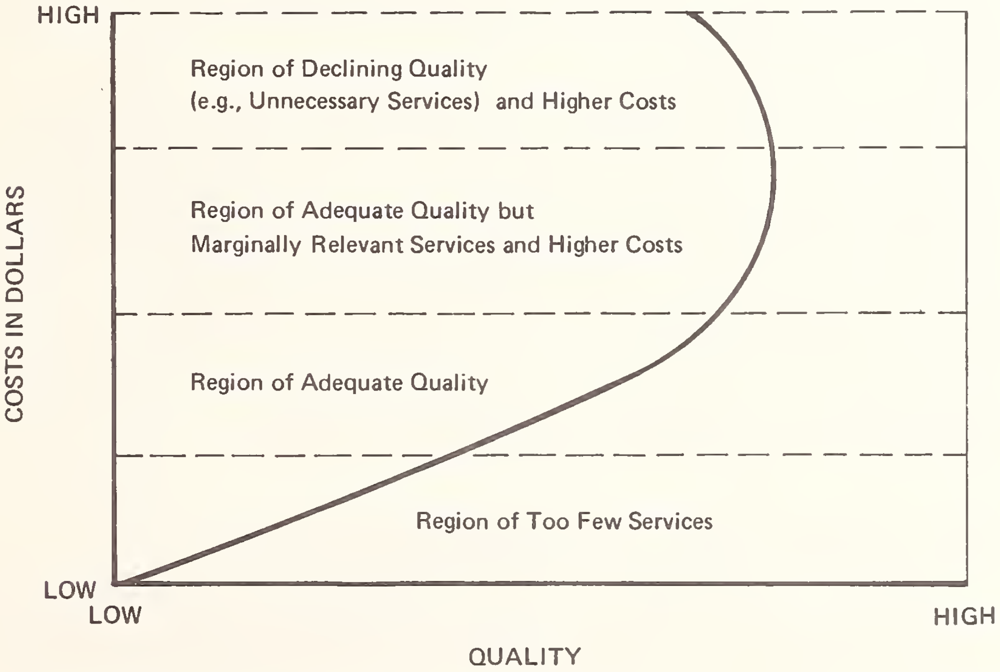
Implicit in the task of assessing the demonstration projects was the need to trace the course of the projects in grappling with some thorny problems. Many unresolved issues in quality of care assessment have been raised in relation to the acute sector but are no less pertinent to LTC review. Williams and Brook (1978) suggest five general categories of questions that must be taken into consideration by any program reviewing quality of care. These include (1) deficiencies in quality of care, (2) the target of review, (3) measurement, (4) implementation, and (5) costs. To some extent, the kinds of programs that emerged were a product of these considerations. Each is mentioned briefly with its implications for LTC review and the PSRO demonstration projects.

1. *Deficiencies in Quality of Care.* The reviewer should be aware of the incidence, prevalence, and seriousness of deficiencies in the quality of care and how these distribute across patients and providers. In the long-term care area, despite the publicity about deficiencies and a general belief that quality of care problems are serious, few systematic data have been generated to augment anecdotal impressions. The PSRO LTC demonstration, therefore, needed to consider development of this information.
2. *Target of Review.* Decisions needed to be reached about whether review should focus only on medical personnel or on all personnel, on single events or on episodes of care. The PSRO must also determine to what extent the health care review should consider activities traditionally outside the sphere of traditional health providers. If outcomes of care are to be considered, the reviewer must to some extent grapple with defining the boundary between patient and provider responsibility for those outcomes. All these issues are very complex in the nursing home setting and the PSRO demonstration projects were required to grapple with defining the proper boundaries of review.
3. *Measurement.* Measurement issues first involve the choice of types of measurements—structure of the care system, process performed by the provider, outcomes achieved by the patient, or some combination. In addition, there is the problem of whose input should be used to develop criteria and standards and the difficulty of assuring reliability and validity of the measurements. In LTC review many relevant measures could be used—e.g., functional status, mental orientation, comfort, and life satisfaction—and there is little consensus about the validity of measurement tools by which these concepts can be assessed.
4. *Implementation.* In implementing a review system, it must be decided whose priorities (physician's, patient's, or government's) should predominate and how an information system can be developed to target review. The PSRO needs to decide whether the objectives are to raise general performance levels across all providers or to identify and correct or eliminate extremely poor performance. Decisions must be made about how

correctional and educational methods should be selected and their effectiveness evaluated.

5. *Costs.* In considering costs of a quality assurance program, the cost of review is only the direct expense; the additional cost of care associated with higher quality is the larger issue. Figure 1.1 illustrates the postulated relationship between cost and quality and suggests that, if unnecessary services are being delivered, then an improvement in quality will be accompanied by a decrease in cost—e.g., elimination of unnecessary surgical procedures. Unfortunately for cost savings, much of LTC as currently delivered probably falls into the region of too few services and therefore increased quality will have a price tag attached. Moreover, in deciding what is cost-effective in a quality assurance program, one faces the difficult problem of placing dollar values on achieving such outcomes as preventing procedures from being done or pain from being suffered.

The utilization review component of PSRO activity in LTC raises very difficult problems. The task of the PSRO is to determine that nursing home placements reimbursed with public money are required by medical necessity and, further, that the LOC received by the patient is correct according to his or her need. But, as has been pointed out (Kane and Kane, 1979), the nursing home in the United States serves a medical social function; patients may be placed in nursing homes who could have been maintained in the community given some different combination


HIGH
Region of Declining Quality (e.g., Unnecessary Services) and Higher Costs
Region of Adequate Quality but Marginally Relevant Services and Higher Costs
Region of Adequate Quality
Region of Too Few Services
COSTS IN DOLLARS
LOW
LOW
HIGH
QUALITY

SOURCE: Adapted from Brook, Williams, and Avery (1976).

Fig. 1.1—Conceptual Cost-Quality Tradeoff Curve

of family resources and community noninstitutional services. Many of the elderly persons now confined to nursing homes, however, have no families; and few communities offer home health, homemaking, or day care services. Furthermore, medical insurance does not cover services provided by relatives or by community alternatives, so financial incentives favor nursing home placement.

The PSRO, a medical organization, is caught in the uncomfortable position of being expected to make judgments about medical need when social need might be the overwhelming reason for placement. Similarly, a placement at a lower level of care may, at times, necessitate the patient's transfer to another facility; and such transfer could have predictably negative social, psychological, and even physical repercussions. Thus a question is posed as to whether a PSRO can effectively review levels of care independently of other changes occurring in the community.

In some states, cost-based reimbursement methods (payment on the basis of costs incurred instead of a flat per diem rate) have eliminated the incentives for LTC facilities to maintain their patients at the skilled level of care. Depending on whether the reimbursement rates vary from facility to facility, cost-based reimbursement may be associated with even stranger inequities—e.g., a patient downgraded to ICF has to leave the SNF to be transferred to an ICF that is being reimbursed at a higher rate than was the SNF. Thus, the distinction between SNF and ICF care in some instances is one of quality rather than cost saving—classifying a patient as SNF dictates the number and kinds of services he will receive—but even these distinctions are murky. The projects were faced with the task of developing criteria to distinguish the need for SNF and ICF care in accordance with federal guidelines in an uncertain atmosphere characterized by great confusion about the financial and quality implications for those decisions in their particular region. They also had to decide what proportion of their efforts to allocate to their legal responsibility to monitor levels of care and whether monitoring the quality of care can be connected to this concurrent utilization review activity.

In both the utilization and quality area, PSRO demonstrations were faced with questions about the extent of activism appropriate for a monitoring organization. To what extent, for example, should the PSRO exercise leadership in trying to establish alternatives to nursing home care? To what extent should the PSRO work toward changing reimbursement systems? Or, when faced with substandard performance in the quality area, what is PSRO's responsibility? Is it to facilitate legal action to close the home, report to the health department and withdraw from the situation, or take vigorous steps to improve the quality of care? In assessing the ten demonstrations, we were interested in noting how these kinds of decisions regarding PSRO as a change agent in LTC were handled.

SPECIFIC QUESTIONS ABOUT REVIEW PROCESSES

In addition to the more general issues raised about monitoring utilization and quality in LTC, a number of second order questions about the review process can be formulated. We developed several clusters of such questions to create a framework for examining the ten demonstration projects.

1. *Choice of Strategies and Priorities.* It is important to examine the allocation of resources among the various kinds of review—preadmission, con-

tinued stay, concurrent quality assurance activities, and MCE studies. Many questions arise regarding the division of effort both among these activities and within them. For example, are there patient populations that should be emphasized such as new admissions or long-stay patients, Medicare or Medicaid patients, SNF or ICF patients, various diagnostic groups, patients in facilities with poor performance? Furthermore, what is the appropriate and feasible responsibility of the PSRO for documenting deficiencies in the delivery system, either institutional or noninstitutional? What proportion of resources should be allocated to building data systems for such documentation?

2. *What Outcomes Should LTC Review Strive to Achieve?* One must address the issue of defining the outcomes that are the appropriate goals of LTC review in the particular area and then developing indicators of these outcomes. For example, what is the utility of denial rates or changes in level of care (LOC) rates as a measure of the effectiveness of PSRO utilization review? What is the utility of nursing home mortality rates and discharge rates as indicators of quality of care? (There are clear difficulties in using such measures because of the prognosis of the population being treated, the differential admission policies of various LTC facilities, and the differential availability of places to which the LTC facilities can discharge their patients. Indicators such as the prevalence and course of decubitus ulcers have attraction, yet are subject to some of the same problems.) To what extent are physicians' practices or drug regimens an important target of review? Should the PSRO be more concerned, then, with measures of functional abilities, patient happiness, comfort, and satisfaction? Not only are these items difficult to measure, but their consideration raises issues about the appropriate boundaries of responsibility for health care. For example, if a patient is depressed because of bereavements and losses, is this a sign of poor quality of care?
3. *Standard Setting and Criteria.* It is not possible to replicate the acute care experience in building criteria for LTC. For one thing, diagnosis-based criteria are of limited utility because of multiple diagnoses. Should criteria then be based on health problem clusters—e.g., skin problems or vision problems—or should they be based on functional status—e.g., ambulation, self-care, mental orientation? How does the PSRO develop criteria for such psychosocial problems as loneliness or depression, which may be a by-product of admission to a nursing home? Should standards for care be keyed to reflect norms of practice (even when they are quite low) or should they be keyed to the ideal (even if then the exception turns out to be the rule)? How much should the PSRO be concerned about whether high technical standards will inflate costs or even reduce "quality of life" by driving small, family-operated homes out of business? In addressing all these perplexing questions, the PSRO will need to consider expanding its traditional physician committee structure to include nurses, physical therapists, social workers, pharmacists, and facility administrators.
4. *Data Collection and Sources.* After the PSRO has determined the review priorities and the outcomes that it wishes to maximize and established criteria and set standards, issues arise about the data collection. Here

PSROs faced the lack of an acceptable, comprehensive set of tools. At the outset of the PSRO demonstrations there was no consensus about the correct source of information for LTC review or the comparative advantages of record review, staff interviews, patient interviews, or "hands-on" assessment. Nor was it clear what training and level of training the reviewer should have achieved. Clarification of the professional judgment and the extent to which psychosocial factors will be reviewed in both utilization and quality review is required before final choice of reviewers. The role of the facility personnel in assisting with data collection is an important issue; their opportunity for observing the patient is greater than that of a PSRO employee, but reliance on them may increase problems with reliability and validity.

5. *Feedback and Correction.* In this new arena, the demonstrations needed to decide how, when, and where to introduce feedback into the LTC system. This involved decisions about which kinds of feedback should be offered to physicians, to facility administrators, to nurses, and to social service designees. It also required a decision about how to balance informal educational feedback (reviewer comments to the responsible professional at the time concurrent review was conducted) with more formal telephone calls, letters, and sanctions. The concept of peer review required decisions about whether all feedback should be discipline to discipline—nurse to nurse, social worker to social worker, OT to OT—as well as physician to physician. If so, mechanisms were required to accomplish this. Another issue concerned feedback to physicians specifically; given their prevalent apathy toward LTC, how can a PSRO achieve feedback about medical care without causing physicians to sever their sometimes tenuous links to nursing homes entirely and thus perhaps make the care rendered in LTC facilities even worse?
6. *Data System.* Here the practical issues concerned the degree of complexity that should be introduced—how many and what kinds of elements or components should be included and how often they should be measured. In a complex, long-term system, there is danger of collecting more information than one can use. Also, questions arise about ensuring both the reliability and validity of the data and its ability to be processed by computer.

As illustrated by the above, the ten demonstration projects entered a quite unharrowed (but harrowing) field with many unanswered questions and much scope for demonstration, exploration, and experimentation. It is therefore of great interest to examine not only the activities of the demonstrations but also the rationale for the activities and to assemble information about how ten different groups addressed the kinds of issues we have detailed. The remainder of the report is organized in a way that highlights the various approaches taken toward common problems and extracts as much as possible from the many lessons that the ten demonstrations learned about LTC review.

OUTLINE OF THE REMAINDER OF THE REPORT

Our report is organized in two volumes. Volume I contains the comparisons and contrasts among the ten demonstration sites and the generalizations about the LTC review processes, the LTC delivery system, and the impacts and costs of LTC review that can be derived from the study of all ten demonstration projects. In addition, detailed examples from the various sites are interspersed to illustrate different topics. Sometimes these examples take the form of an analytical review of material generated by the sites themselves while, to produce other examples, we conducted a primary analysis of the review data.

Volume II (Kane et al., 1979) contains ten site-specific reports that describe and assess each project independently. This volume can be read for an overview of particular projects. Cross-references are provided to Vol. I for the more detailed discussions of data from that site that have been used as examples for cross-site discussions and for a view of that site compared with all the others.

The remainder of Vol. I is organized as follows: Chapter 2 describes the framework that was used to examine all sites, the sources of data common to all sites, and the particular site-specific emphases. A number of quite distinct substudies were developed as part of this assessment including: a conference methodology used to synthesize what the ten projects had learned from the demonstrations, an analysis of criteria and forms generated by the demonstrations, a series of about 230 telephone interviews with representatives of facilities dealing with the PSROs, a cross-site cost analysis, and various analyses of data generated from the review system of individual PSROs. These methods are catalogued and described in Chapter 2.

Chapter 3 contains the assessment of the review system, including cross-site comparisons on review activities, processes, and philosophies. Extensive use is made of matrix tables to assist in the comparisons. The study of criteria, standards, and forms is presented in this chapter, along with an analysis we conducted with Baltimore data to develop an equation that makes explicit the professional judgments on LOC. The chapter contains a discussion of how the experiences of all ten sites shed light on theoretical questions about the appropriate purposes and procedures of the PSRO in LTC review. Many of these insights were derived from a Rand-hosted conference attended by representatives of all sites.

Chapter 4 discusses the approaches of the various demonstration projects to establishing data bases for the LTC delivery system. A number of analyses that we performed on data sets generated by the projects are presented within this chapter.

The next four chapters concern effectiveness. Chapter 5 compiles information about the effect of the PSRO review system on utilization and quality; this information is presented in the context of the many reasons why it is difficult to make definitive statements about effectiveness. A number of the demonstrations attempted limited experiments to test the effect of either preadmission or concurrent review, and these experiments are grouped together in the presentation. Chapter 6 describes MCE studies and other special studies and discusses some unique features that can be extrapolated from the demonstrations. Chapter 7 reports the effect of the PSRO demonstrations from the perspective of the LTC facilities, and Chapter 8 compares the cost of the different programs.

Finally, although Chapters 3 through 8 contain some specific conclusions, Chapter 9 provides a vehicle for the major recommendations and conclusions drawn by the Rand study team, including implications for ongoing review systems, for building data bases, for further study, and for public policy.

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Chapter 2

METHODOLOGY

ASSUMPTIONS

Underlying our choice of strategies for assessing the PSRO LTC demonstration efforts were a number of premises about the nature of the projects and the best way of gleaning maximum information from their collective experiences. These are summarized below:

1. Each demonstration project could be expected to encounter unique problems and circumstances. It was expected that no single model would emerge to guide PSRO activities in LTC review. From this premise, it followed that each demonstration should be assessed in terms of its own objectives and circumstances.
2. Despite variation from project to project, some activities and challenges could be expected to be comparable across most sites; uniform methods were therefore developed to explore the same information from site to site and to collect information when possible in standardized ways across sites.
3. Because long-term care and long-term care review are multidisciplinary processes, the study team assessing the PSRO LTC projects should also be multidisciplinary in its composition.
4. We assumed that it was possible to develop a preliminary framework to identify the factors that any PSRO might consider in developing a LTC review program. Further, it was considered useful to compare the LTC projects along the dimensions of such a comprehensive framework.
5. We expected that the LTC demonstrations, with few exceptions, would not have produced very much definitive evidence of impact on either utilization or quality of care because (a) the mandate of the projects did not embrace an expectation that effectiveness be demonstrated, (b) federal guidelines changed during the two years, and (c) state policies in effect concurrently with the PSRO demonstration projects made attribution of cause and effect of any LTC changes precarious. (The problems of demonstrating effects of the review system are discussed in more depth at the beginning of Chapter 5.) Because such information is germane to any policy debate about the PSRO role in LTC review, we gave priority to identifying and attempting to document the effects of the review systems emerging from the demonstrations, even to the point of analyzing additional data.
6. Despite our interest in searching out evidence of effects, the projects were not assessed as successes or failures in those terms. We considered that the experience of each project was of value in building a body of information about LTC review.

CONTEXT OF ASSESSMENT

The context of our assessment must be briefly reviewed to give logic to the research methods we employed. It is important to recognize both the temporal relationship between the conclusion of the demonstration projects and the beginning of our study and the time constraints under which we performed the assessment.

The PSRO LTC demonstrations went into the field in October 1976 and, except for Minneapolis, which was granted a short extension, concluded their demonstration projects in the fall of 1978. An original assessment contract had been let a few months before the establishment of the demonstrations in 1976, but that firm terminated its contract 18 months later, just as the demonstrations were beginning their second year. HSQB then issued a second Request for Proposal, this time with a six-month timeline, and, in October 1978, we were awarded that contract to assess the demonstration projects both individually and collectively.

This sequence necessarily meant that we would be considering the work of the demonstrations retrospectively and were thus unable to build any prospective data collection or evaluative strategies into the work of the demonstrations. In essence, we were forced to generate a historical analysis at a time when the situation had changed from the demonstration posture. Some central people had left the scene, and others had shifted responsibility. It also meant that some of the PSROs had moved ahead to launch operational LTC review programs; thus, during our interviews, distinctions between demonstration activities and nondemonstration activities were rather hazy, especially in the minds of interested community members and LTC facility personnel. Although we attempted to differentiate between demonstration and post-demonstration activities as clearly as possible, we acknowledge that the two years of demonstration had generated experience with and convictions about LTC review that would then be reflected in the ongoing program decisions. Similarly, the responses of facilities in the winter of 1978 would be related to the LTC industry's total experience with the PSRO, including both the demonstration period and that subsequent to it. Therefore, for each site report, we described current activities and plans as outgrowths of the demonstration projects.

The other relevant contextual item is the very short time afforded us to complete the assessment—six months to produce a draft report. This timetable was justifiable in view of HSQB's legitimate need to integrate the lessons of the demonstrations into policy decisions. It did, however, mean that we were limited in the kinds of data analyses we could undertake within the abbreviated period for the cycle of exploration, planning, forging agreements, data preparation, and analysis. As it was, our assessment imposed considerable burdens on the PSRO staffs to assemble information and arrange site visits in a telescoped time period.

THE RAND STUDY TEAM

The Rand team was designed to reflect a broad multidisciplinary base.[1] Clinical experience from medicine, social work, and nursing was represented on the team;

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[1] The PSRO LTC review programs have developed a somewhat specialized vocabulary. The unfamiliar reader is referred to the Glossary for definitions of acronyms and other terminology.

substantial input was also included from economists, social scientists, and statisticians. Rather than making site assignments to single team members, the work was organized to maximize the number of team members who could become familiar with a single site. In most cases at least three different team members made an onsite visit to the PSRO and still others reviewed site-specific materials and participated in Rand-based meetings with PSRO representatives. Especially at the outset of our work, the team met regularly to develop a genuinely multidisciplinary perspective to the work.

COMMON METHODS ACROSS SITES

Table 2.1 lists uniform procedures that were undertaken at each site. The major activity categories are discussed briefly below.

1. Review of Background Materials

As a first step in making the assessment, we requested materials from each site. Among the materials reviewed were project reports (both interim and final); long-term care review manuals; operational plans for LTC review; criteria, forms, and guidelines; and reports of special studies. In addition, we gathered background material through a literature review on the state of measurement in LTC, a review of historical materials about each site, and a study of the development of PSRO LTC policies in general as shown by the HSQB files.

2. Site Visits

Two separate rounds of site visits were made to each demonstration project site. During the first visit the Rand team concentrated on interviewing PSRO personnel, board, and committee members; semi-structured interview protocols were used so that site visitors might consistently seek out information on a number of topics such as process of review, factors facilitating and impeding the development of programs, decisions regarding what had priority and their rationale for such decisions, and staff views about the effects of the program. The site visit teams applied a standard formula to the search for demonstrable effects that included inquiry about information available from previous or concurrent review systems that might provide any comparison data.

The emphasis of the second round of site visits was suggested by the preliminary analysis of information from the first visits, after which we prepared a brief assessment protocol indicating the team's initial summary of each site's program, its view about what special contributions an examination of that site would make to the general understanding of LTC review, and suggestions for the second round of site visits. These protocols were reviewed by representatives of each site and sometimes modified to incorporate issues of particular interest to that PSRO staff.

Thus the second site visits contained more site-specific procedures than did the first. Common to all second site visits, however, were semi-structured interviews with relevant organizational representatives from outside the PSRO. These usually included officials from state health departments, state social service departments, and Health Care Associations (the nursing home trade associations). We also collected uniform cost information from each site.

Table 2.1

ASSESSMENT METHODOLOGY COMMON TO ALL SITES

1. Review of Background Materials
    a. Site-specific materials such as Demonstration Reports.
    b. Historical and policy-relevant material from HSQB files.

2. Site Visits
    a. Interviews with PSRO personnel, including executive director, medical director, LTC Director, reviewers; data analysts; business manager, LTC Committee Chairman, other committee and subcommittee members.
    b. Interviews with individuals outside PSRO, including representatives of the state Health Department, state Department of Social Services; Health Systems Agency, Health Care Association, selected LTC facilities.

3. Cross-site Comparisons
    To make cross-site comparisons, specific descriptive items were collected and displayed as matrics in the following general areas:
    a. Activities of the demonstration projects.
    b. Process dimensions of review.
    c. Criteria and forms.
    d. Political and environmental factors.
    e. Philosophical stance and priority-setting.
    f. Costs.

4. Analysis of Criteria and Forms
    All criteria lists, guidelines, and review forms were collected and analyzed according to a common framework.

5. Telephone Interviews with Nursing Home Personnel
    227 telephone interviews were conducted with nursing home personnel in order to gain the facility perspective of the impact of the PSRO Demonstration Projects; either all facilities involved with the Demonstration were telephoned or (when more than 30 LTC facilities were involved) a random sample of 30 was telephoned.

6. Rand Conference
    a. Representatives of each demonstration were invited to a 2-day conference.
    b. Small work groups addressed issues of common interest across projects.
    c. The conference summary identified consensus when possible or articulated divergent viewpoints when consensus was not possible.

7. Cost Analysis
    Rand developed a data collection form to gather estimates of the costs of the LTC review demonstrations. The following aspects of cost were considered:
    a. Allocation of PSRO time among various LTC program activities.
    b. Allocation of board and committee members' time among various LTC activities.
    c. A rough estimate of cost per review and per patient reviewed.

3. Cross-site Comparisons

Before beginning the field work, we developed a number of matrix tables delineating dimensions of the review system to be described across all sites. Completion of these tables involved collection of a standard set of items describing components of the PSRO program in terms of organizational elements, review activities, process dimensions of review, relationships with other agencies in the region, and priorities of the review system. After the first site visit, the several visitors completed the matrices independently as a check on inter-rater reliability. Differences were reconciled through discussion, with some points held for re-observation on the second site visit. Each PSRO staff was also invited to comment on the draft matrices for their sites; PSROs sometimes suggested corrections, but the final decisions remained with the Rand team. These matrices are presented and discussed in Chapter 3.

4. Analysis of Criteria and Forms

Criteria and forms developed by the demonstration were compared with attention to derivation, reliability, validity, convenience of use, and description of data elements. Criteria were further subdivided into categories relating to medical care, nursing care, diagnosis or problem-based criteria, functional status, psychosocial adjustment, and patient satisfaction. Different approaches to LOC judgments were also discussed. The criteria study is found in Chapter 3.

5. Telephone Interviews with Nursing Home Personnel

Because it was impossible to visit a representative selection of LTC facilities during the site visits, an extensive series of telephone interviews was conducted with LTC facility personnel. The sample consisted of all the facilities participating in the demonstration or a randomly selected group of 30 (whichever was less). About 230 telephone interviews were completed: These, too, were semi-structured discussions lasting an average of 45 minutes and elicited facility perceptions of the positive and negative effects of the PSRO LTC review system on such items as quality of nursing care, documentation, transfer of information from acute facilities, LOC, physician care, and so on. A standard topic guide and note-taking formula was utilized that partially lent itself to computer analysis; the interviews also yielded rich categorical data that were subjected to content analysis. More methodological detail about the telephone interviews is presented in Chapter 7 along with the findings of that substudy.

6. Conference at The Rand Corporation

An important part of the assessment of the projects' effects on development of LTC review technology involved bringing together participants from each demonstration to interact during a two-day workshop at The Rand Corporation. The workshop was structured around clusters of unresolved issues in LTC review; participants reviewed the questions beforehand and then engaged in a series of alternating small group and plenary discussions. Out of this productive interaction, areas of consensus and divergence were identified and the unresolved issues highlighted. More details about the conference methodology are contained in Chapter 3, and a synthesis of the proceedings is presented in Appendix A.

7. Cost Analysis

To make some tentative conclusions about the cost of various review systems, we devised our own form for collection of cost information. This instrument is discussed in Chapter 8 preceding the presentation of the cost information. Our ability to generalize on the question of cost-effectiveness was limited in a number of ways. First, we took the position that it was not possible to allocate dollar values to the benefits of review and, therefore, at best we could cast the discussion in terms of cost-effectiveness only rather than cost-benefit. Second, we recognized that start-up costs associated with the program made it difficult to extrapolate to an operating system. Also, we were concerned with costs to the system that were not directly borne by the PSRO; it was difficult, however, to assign proper costs to facility involvement in the review system because such costs could be due to some efforts to improve quality as a result of PSRO uncovering deficiencies, to changes in recording or other practices necessary to facilitate review, or to some combination of these. Much more detail about the methods and limitations of our cost analysis is found in Chapter 8.

SITE-SPECIFIC METHODOLOGY

In addition to the common procedures used with each demonstration project, one or more specific procedures were undertaken at all sites. Table 2.2 lists the major site-specific studies.

These studies fall into a number of general categories including: case studies of particular program components, critical review of data analyses that emerged from the demonstration projects, and our primary data analysis.

The case studies included studies of processes (e.g., delegated review at Multnomah and geriatric nurse practitioner roles in Colorado) and PSRO effects on a single facility that offered extremely poor quality care (Baltimore). We also included two case studies of statewide binding review (South Carolina and Vermont).

The review of experiments within the demonstration projects includes critical discussion of several preadmission review studies (Multnomah, San Joaquin, and South Carolina) and several experiments with the effects of a review system on quality of care (Utah, San Joaquin, and Minneapolis). Several MCE studies and special studies are also reviewed (Colorado, Charles River). In two cases (Minneapolis and Vermont) a major thrust of the demonstration was extensive research. In both of these instances, the Hebrew Rehabilitation Center for Aged (HRCA) in Boston collaborated with the PSRO in the research plan and data analysis. We, in turn, coordinated our assessment efforts with HRCA and were able to gain additional perspective on these contributions by participating in working meetings with the PSROs and the HRCA researchers.

We undertook six analytic projects as part of the assessment; these analyses ranged widely in scope, and for greater clarity the discussion of each methodology will be reserved for the presentation of the findings. These projects included a hand tabulation of Utah reviewer logs to suggest the effect of a concurrent review system on quality; an analysis of South Carolina MCE study data, because this demonstration had the most extensive experience with the MCE study methodology in LTC; a reanalysis of a San Joaquin experiment to assess the effect of review on quality;

Table 2.2

MAJOR SITE-SPECIFIC ACTIVITIES

BALTIMORE

1. Analysis of data collected by the PSRO in order to make explicit the professional judgments that produced LOC decision. (At that time LOC decisions were made on a six-level scale.)[a]
2. Case study of PSRO impact on one outlier facility.

BRONX

1. Case study of PSRO/state relationships.
2. Review of study of main reasons for certifying SNF care.

CHARLES RIVER

1. Compilation of ways that a nonbinding review system was able to affect quality and utilization.
2. Review of MCE study on adequacy of transfer information.

COLORADO

1. Analysis of data derived from review system to relate patient outcomes to initial LOC decisions.[a]
2. Report of drug utilization study.
3. Case study of use of geriatric nurse practitioners and social caseworkers in review.

MINNEAPOLIS

1. Review of methodology and results of a quasi-experiment to measure the impact of an extensive LTC review.[b]

MULTNOMAH

1. Analysis of review data from 1975-1978 in order to describe changes in the LTC population over time.[a]
2. Case study of the implications of a delegated review.

SAN JOAQUIN

1. Reanalysis of an experiment to measure impact of quality assurance system.[a]

SOUTH CAROLINA

1. Analysis of data from MCE study program. (About two MCEs were performed per facility per year.)[a]
2. Case study of statewide binding review implications.
3. Review of a preadmission review study.

UTAH

1. Review of experiment to determine spin-off effects of LTC quality.
2. Analysis of reviewer logs to suggest kinds of impact possible from a concurrent quality assurance program.[a]

VERMONT

1. Review of methodology and findings from a series of related studies on effects of review system. Particular emphasis was given to identification and community placement of "dischargeable" patients.[b]
2. Case study of implications of statewide binding review system.

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[a] Rand undertook either primary data analysis or reanalysis of data.

[b] The research was conducted cooperatively with the PSRO and Hebrew Rehabilitation Center for Aged. Rand coordinated its efforts with HRCA and is reviewing the final products.

an analysis of Baltimore review data to make explicit the implicit judgments on LOC; analysis of Multnomah review data from fall 1975 to December 1978 to describe changes in the LTC population over time; and analysis of data derived from the Colorado review system to relate patient outcomes to initial LOC decisions. Each of these substudies was formulated as a result of the first site visit; they are used as examples and are woven through Chapters 3, 4, and 5 of this volume.

Drafts of parts of the report pertaining to each PSRO (consisting of an entire draft chapter from Vol. II describing the particular PSRO LTC demonstration program and, in most cases, relevant sections of Vol. I) were sent to the PSROs for their review before final preparation of this report. PSROs therefore had the opportunity to point out factual errors or challenge our interpretations. All but one PSRO responded by telephone, letter, or both; and these comments were carefully considered in preparing the final version. The authors, however, are responsible for the ultimate conclusions and for any comparative judgments.

A CONCEPTUAL FRAMEWORK FOR DEVELOPMENT OF AN LTC REVIEW PROGRAM

The Rand team developed a preliminary conceptual framework consisting of 13 general questions that might be posed with regard to a PSRO beginning LTC review. These questions, displayed as Table 2.3, are the kinds of issues a PSRO might consider to take a comprehensive approach to UR and quality assurance in LTC. It was not expected that any PSRO demonstration would have addressed all these issues, but the compilation was a convenient checklist for Rand team visitors and a focal point for discussions with PSRO staff members about their own priorities and the reasons for these priorities. The framework also generated discussions about the appropriate roles of a PSRO in long-term care review.

The PSROs received a copy of this list of questions before the site visits began. At the risk of being arbitrary and oversimplifying, we prepared a table summarizing the stance of each of the demonstrations with regard to the conceptual framework. This table, presented in the form of a matrix, is found in Chapter 3.

Table 2.3

CONCEPTUAL FRAMEWORK FOR DEVELOPMENT OF A PSRO LTC REVIEW SYSTEM

UTILIZATION REVIEW

1. Did the PSRO direct any effort to determine whether a patient was correctly placed in LTC?
    a. Did the PSRO direct effort toward determining whether patients were placed in an LTC facility who should not have been placed in one?
    b. Did the PSRO direct effort toward determining whether patients who were *not* placed in an LTC facility should have been placed in one?
    c. Did the PSRO direct effort toward determining whether patients were placed at the correct level in an LTC facility?
    d. Did the PSRO differentiate between the "short stay" and "long stay" patient in planning their review?

2. In the case of malplacement of any of the above kind, did the PSRO attempt to classify the *reasons* for the malplacement?
    a. Did the PSRO document the extent of inappropriate placement in an LTC facility because of absence of alternative resources?
    b. Did the PSRO document extent of inappropriate failure to place a patient in LTC because of an absence of institutional resources?
    c. Did the PSRO document the extent of placement in an inappropriate level of care because of lack of institutional resources?
    d. Did the PSRO document the extent of inappropriate placement or placement at an inappropriate level because of social/psychological needs (e.g., lack of a caretaker at home or distance of appropriate facilities from relatives)?
    e. Can the review system detect patients discharged from the nursing home to die in the hospital and the reverse?

3. Did the PSRO determine appropriate placement or level of placement on the basis of comprehensive, patient-centered, interdisciplinary-derived criteria?
    a. Were criteria developed based on diagnoses?
    b. Were criteria developed based on functional abilities?
    c. Were criteria developed based on nursing service needs?
    d. Were criteria developed based on psychological/social needs?
    e. Were criteria developed for appropriate transfer of seriously ill and terminal patients into acute facilities to distinguish when it is appropriate to make the transfer and when the patient should be left in the nursing home to die?

4. Has the PSRO taken steps to examine the validity of decisions about appropriate placement?
    a. To what extent are decisions made on the basis of LTC facility records?
    b. Has the PSRO ascertained that the information in LTC records is accurate?
    c. Has the PSRO attempted to systematically validate information in LTC records through primary data collection?

QUALITY OF CARE

5. Has the PSRO made an attempt to define quality of care in LTC facilities?
    a. Has quality of care been consciously perceived as a function of medical care, nursing service, ancillary services, and institutional conditions?
    b. Has the PSRO made a decision to include in the concept of quality of care the care leading to outcomes in the physical, social, and psychological sphere?
    c. Has the PSRO made a decision about how to divide review resources between reviewing care in the physical, psychological, and social spheres?
    d. Has the PSRO made decisions about how quality will be assessed when physical, psychological and social outcomes may be in conflict (e.g., when excellent physically-oriented care might lead to social stress)?
    e. Has the PSRO made a decision about whether quality of care in each of the spheres (physical, psychological and social) should be measured by structure, process, outcome or some combinations?

6. To what extent was there multidisciplinary involvement in the various phases of quality assessment?
    a. Was there multidisciplinary involvement in identification of the problem?
    b. Was there multidisciplinary involvement in the development of criteria and standards?
    c. Was there multidisciplinary involvement in the review process?
    d. Was there multidisciplinary involvement in the development of remedial action?

7. Did the PSRO take steps to ascertain the validity of criteria and standards used in assessing quality?
    a. Did the PSRO use existing measures? If so, did the PSRO ascertain whether there was evidence for their adequacy, reliability, and validity?
    b. Did the PSRO develop new measures? How did they go about determining adequacy, reliability and validity?

8. In making plans for monitoring quality of care, has the PSRO set priorities on the basis of major problems of underservice and overservice to patients in LTC facilities nationally or in the region? These might include:
    a. Overuse of tranquilizers
    b. Under-, overuse of physician visits; perfunctory physician visits
    c. Under-, overuse of mental health services
    d. Lack of programming to prevent or treat disorientation, depression and other mental health problems

9. Did the PSRO make a decision about the extent to which the review system is designed to identify and correct extremely deviant provider or institutional performances and the extent to which the review system is designed to improve average performance?
    a. Has the PSRO developed a strategy for detecting and correcting deviant performances?
    b. Has the PSRO developed a strategy for improving the general level of performance?
    c. How has the PSRO decided to apportion resources between these two strategies or have provisions been made to accomplish both goals?

Table 2.3--continued

10. Have the PSRO's taken steps to insure that MCE studies might have an impact on the quality of care?
    a. Have the topics for MCE studies been chosen on the basis of a systematic plan to identify needs?
    b. Who contributes to the decision to select an MCE topic and how is the final decision made? How broad is the interdisciplinary base in such decisionmaking?
    c. Are MCE studies designed in such a way that conclusions may be validly drawn from their results?

11. To what extent did the PSRO consider the complexities of outcome measurement peculiar to long-term care?
    a. In attempting to develop measurements for outcomes, did the PSRO consider the prognosed outcome? For example, would deterioration, if less marked than expected, be considered a good outcome?
    b. In attempting to develop measurements for outcomes, did the PSRO consider a division among poor outcomes associated with: omission of care; commission of care; nursing home milieu (preventable); nursing home milieu (not preventable)? (For example, if an individual is depressed in a nursing home because of lack of stimulation or programming, this might be preventable; if he is depressed because of an extreme fear of old age and death, this may not be preventable.)
    c. In attempting to develop measures of quality of care, did the PSRO consider to what extent LTC facilities and providers should be held accountable for complete social and psychological health?
    d. In actually measuring quality of care, to what extent did the PSRO document the various factors associated with the outcomes in the social and psychological sphere?
    e. In documenting social and psychological outcomes, did the PSRO reach a decision about who is the appropriate source of information? Is the patient an appropriate source of information about social well-being?
    f. To what extent did the PSRO decide that resources should be invested in documenting patient satisfaction? Should patient satisfaction extend to satisfaction with care or satisfaction with life?

PROFILES AND INFORMATION MANAGEMENT SYSTEM

12. Has the PSRO considered the most useful form of a data system for monitoring LTC?
    a. Has the PSRO planned for the form of data retrieval most desirable (this might include profiles of patients across diagnoses, patients across problems, facilities across patient problems, facilities across patient characteristics, providers across facilities, etc.)?
    b. Has the PSRO planned for the desired capacity for linkages between all forms of PSRO review? Will PSRO, for example, want the capacity to monitor patients across LTC, acute care and ambulatory care?
    c. Has the PSRO planned for how decisions will be made from the data base in order to determine categories of deficient care?
        (1) Have cutoff points been made for acceptable performance in LTC facilities with various categories of patients?
        (2) Are such norms established for psychological and social conditions as well as morbidity and mortality?
    d. Has the PSRO incorporated psychological and social information into patient profiles?

COSTS

13. For each of the above areas (1-12), has the PSRO assessed the benefits of the activity in relation to its costs?

Chapter 3

THE REVIEW SYSTEM

This chapter's purpose is to describe, compare, and synthesize the experience of the demonstration projects in the mechanics of building a review system. Summary tables have been used extensively to facilitate display of a large amount of information about each site; the accompanying narrative has been used to highlight general issues and patterns. Topics in this chapter include activities of the projects, environmental/political contexts, philosophical stances and priorities, forms and criteria, and differential use of review personnel. Reliability and validity of measurements are discussed and the basis for implicit LOC determinations is explicated by a Rand analysis of data generated by the Baltimore City PSRO. Similar implicit judgments about "dischargeability" from nursing homes are examined with the example of data collected and analyzed by the Vermont PSRO.

The chapter includes a general discussion of some issues relevant to creating an LTC review system; the themes were derived from the proceedings of a conference hosted by Rand and attended by representatives of all ten PSRO demonstration projects.

CONTEXT OF THE DEMONSTRATIONS

The demonstration projects exhibited substantial variation in their emphases and approaches to their tasks. These variations can be partially explained by the history of the PSRO, the characteristics of LTC in the area, and the differential receptivity in the environment to different program initiatives. All differences, of course, cannot be ascribed to factors external to the PSRO LTC demonstration project; each project faced decisions about whether to have a large-scale program or to develop methodology and data through smaller, more controlled efforts. Here the interests and temperaments of PSRO boards and staffs interacted with the political and environmental factors to produce the activities of each of the programs.

Table 3.1 compares each of the demonstration projects across some common categories of environmental opportunities and constraints; the table also indicates the extent to which each PSRO had achieved binding review for its program components (Medicare, Medicaid, SNF, and ICF) by the end of the demonstration.

The initial situation of the demonstrations differed from site to site; in sharp contrast were such urban regions as the Bronx with its high proportion of elderly and impoverished residents and more prosperous, largely rural areas such as San Joaquin. Another contrast is the geographical configuration of the regions. Colorado and Utah are large states with sparsely populated sections, and the Minneapolis area included over 500 LTC facilities with which the PSRO would eventually need to interact; in contrast, smaller or more circumscribed geographical areas such as Multnomah, Charles River, Baltimore, or the Bronx offered much easier access to the facilities from the central PSRO office.

Table 3.1

POLITICAL/ENVIRONMENTAL CONTEXTS OF DEMONSTRATION PROJECTS

PSRO

CHARACTERISTIC	BALTIMORE	BRONX	CHARLES RIVER	COLORADO	MULTNOMAH	MINNEAPOLIS	SAN JOAQUIN	SOUTH CAROLINA	UTAH	VERMONT
REGION	Urban, populous	Urban, populous; high percent elderly	Suburban; middle class	Statewide; urban & rural	Portland, Oregon	Urban & rural	Largely rural, sparsely populated	Statewide; largely rural	Statewide; urban & rural	Statewide; largely rural
NATURE OF LTC REVIEW BY END OF DEMONSTRATION	Medicare & Medicaid BR in NHs & CDHs	Medicare BR	Voluntary	Voluntary	Delegated BR for SNFs replaced by nondelegated plan	Voluntary	Medicare BR; voluntary for Medi-Cal pts.	Statewide Medicare & Medicaid BR	Voluntary	Statewide Medicaid BR
FACILITIES INVOLVED IN PROJECT	5 CDHs; 42 NHs	20 of 37 NHs	40 of 46 NHs	35 Volunteer NHs	13 SNFs; almost all SNFs in area	18 of 500 NHs	27 of 28 NHs	All 135 NHs, including mental retardation facilities	20 of 100 NHs; limited to Medicaid pts.	All 47 NHs; limited to Medicaid pts.
RELATIONSHIP WITH FEDERAL AGENCIES (HSQB, BHI)	Medicaid BR delayed pending ruling re: IPR/MR with regard to PSRO review	PL 95-142 caused PSRO to change plans for delegation	PSRO felt unsupported by HSQB when PL 95-142 gave state authority for ICF review	Delay while HSQB ruled on physical exams by nurse practitioners	PL 95-142 required major changes in delegated review plans	HSQB extended project to permit data analysis	Could not get BHI waivers to conduct part of its demonstration	BR delayed 1 year by HSQB & BHI; PL 95-142 caused PSRO to drop delegation	Good	HSQB funded evaluation only
RELATIONSHIPS WITH STATE AGENCIES (RE: MEDICAID)	Good collaboration with State Health Dept. re: quality; CDH MOU 2/76; NH MOU 6/78	State insisted each patient be denied Medicare before receiving Medicaid; MOU negotiations difficult	Conflict between Health Dept.& PSRO with facilities in the middle; MOU delays	Good cooperation & personnel sharing with Social Services; turf problems with Health Dept. & MOU delays	No problem; MOU for SNF 1978	No problem	Medi-Cal surveyors & PSRO in turf dispute	Close relationship with Socia Social Services Dept.; overlap with Health Dept.	Turf problems among Social Services Dept., Health Dept. & PSRO	Began project under contract to State Welfare; relationship cordial; overlap with State Healt Department
RELATIONSHIPS WITH FISCAL INTERMEDIARIES (RE: MEDICARE)	MOU for NH 1976; CDH 9/78	MOU with Travelers 10/77; MOU Blue Cross 4/78	Began dry run for BR post-demonstration	Limited contact	MOU in 1975 before demonstration	Developing an MOU post-demonstration	MOU signed in 1975	BR 8/77	BR negotiated post-demonstration	BR post-demonstration
RELATIONSHIPS WITH HSA	Supportive; HSA used PSRO data	Signed MOU	Signed MOU; limited contact	Signed MOU limited contact	Signed MOU	Signed MOU; HSA rep. on PSRO board				HSA used PSRO study results in state plan
RELATIONSHIPS WITH NURSING HOME ASSOCIATION	Represented on LTC Committee; cooperative	Little contact	Endorsed the PSRO	Supported & participated	Supported & supplied members to LTC Committee	Little contact	Supportive; adversary stance with state Health Dept.	Adversary; upset at continuing retroactive Medicare denials	Supportive	Adversary; strongly organized opposition to PSRO
POST-DEMONSTRATION SITUATION (AS OF 2/79)	Program in place; issue around rate setting & designation of comprehensive level	MOU for Medicaid is a problem	PSRO does not review ICF patients: cut back in PSRO "sphere of influence"	Problem with Medicaid MOU	Nondelegated review now in place	PSRO faces decision about what aspects of experimental review system to retain	Program continues; PSRO has budgetary restraints	Continuation of program	Focus changed; PSRO to review SNF only in BR plan	Program under internal review

BR = Binding Review
NH = Nursing Home
CDH = Chronic Disease Hospital

MOU = Memorandum of Understanding
BHI = Bureau of Health Insurance
HSQB = Health Standards and Quality Bureau
HSA = Health Systems Agency

The PSROs also differed in their historical experience with LTC review. San Joaquin and Multnomah had been performing binding review for some categories of LTC patients before the demonstration. For San Joaquin the demonstration resembled two more years in the development of its program rather than a developmental phase; demonstration funding was used to support in-depth exploration of certain program areas. In contrast, for Multnomah, the orderly progression of its demonstration was interrupted by the PSROs' need to respond programmatically to the prohibition of delegated review in LTC facilities that occurred midway through the demonstration effort. Although no binding arrangements had been made, Colorado had been involved with LTC review since the early 1970s when it was conducting an EMCRO project. Still other demonstrations, such as South Carolina and Vermont, began the projects with no prior LTC review experience.

The other organizations inhabiting the PSRO area are a very important environmental feature. Sections of Table 3.1 treat the PSRO relationship with federal agencies, state agencies, fiscal intermediaries, HSAs, and nursing home groups. Some noteworthy patterns emerged in these interactions. For the most part, few difficulties were experienced with fiscal intermediaries, and Medicare binding review was much easier to negotiate than Medicaid review. Similarly, there seemed to be few problems with the HSA; the only exceptions were the occasional instances when a PSRO believed that the HSA misinterpreted its data in developing its state wide plan. An example of the latter occurred in Vermont; the PSRO found that 10 percent of those correctly placed in ICFs could have been managed in community care homes, were the latter available, and the HSA concluded that 10 percent of ICF nursing home residents "did not belong there."

Relationships with state agencies were more troubled, partly because the states had often already invested in substantial LTC review programs; consequently state agencies had developed programs in which they believed, and, moreover, they had turf and personnel to protect. The two PSROs that were able to move most quickly into Medicaid binding review—Vermont and South Carolina—took advantage of the fact that their states had not developed strong MR and IPR programs.

The greatest difficulty in state/PSRO relationships involved the health departments; here the issues of jurisdiction became pronounced because the health departments were responsible for licensure surveillance of LTC facilities and often performed MR and IPR as well under contract. One frequent area of overlap between the health department and the state was the monitoring of patient care planning; PSROs considered the patient care plan central to their quality assurance efforts, and health departments also assessed adequacy of patient care planning as one of the structural components of their licensure surveillance. These interests could be duplicative and sometimes contradictory. During the demonstration, various PSROs developed ways of collaborating with state licensing bodies so that their requirements and procedures became mutually reinforcing.

Other problems with the states' departments of social services concerned a reluctance to allow the PSRO, a medical organization, to define eligibility for care in a medical/social program (Medicaid) strictly by "medical necessity." Issues also arose over confidentiality and data sharing between the state agencies and the PSRO, although these were interpreted differently from PSRO to PSRO. There was considerable discussion in the Bronx over whether the state would and should have access to the facility-specific information it required for rate-setting if the PSRO took over MR and IPR; in contrast, Baltimore and Vermont seemed to share information quite freely with the state and even collaborated with the states on quality assurance enforcement mechanisms.

Relationships were generally good with the Health Care Associations, other organized nursing home groups, including management chains of nursing homes, and with facilities themselves. PSROs made considerable effort to involve LTC facility representatives on their committees and to seek their input in many decisions. Not surprisingly, the two PSROs with statewide binding authority experienced an exception to these supportive relationships despite their efforts to engage LTC personnel in advisory roles. In South Carolina, opposition to the PSRO program centered around (1) the radical changes in LOC that were produced in the first year of PSRO review and (2) the facilities' disappointment that binding PSRO review of Medicare did not prevent retroactive Medicare denials as they had been led to expect.

In Vermont, the adversary relationship between facilities and the PSRO was even more pronounced, although the Vermont PSRO's influence on the LOC patient mix was much less than South Carolina's; nevertheless, active opposition to the PSRO program emerged and coalesced around the requirement that the facilities complete what they considered a cumbersome assessment form. The deterioration of relationships with the LTC facilities in Vermont might be attributed to the way the PSRO introduced its program; facilities perceived that their expertise was ignored. In San Joaquin, where the PSRO also made binding decisions and produced a fairly high rate of Medicare non-certifications and denials, the Health Care Association was nevertheless positive about the PSRO. In the latter case, the nursing homes were simultaneously involved in an adversary relationship with health department surveyors that might have made the PSRO seem benign in contrast.

A final consistent theme concerns the relationships of the demonstrations to federal agencies and federal policies. PL 95-142 put a damper on a number of demonstration plans; Multnomah, the Bronx, and South Carolina were all involved to some extent with delegated review, which was eliminated by PL 95-142. Also as a result of PL 95-142, Charles River was required to retrench its program and leave ICF review to the state; the Charles River PSRO interpreted this as a lack of HSQB support for the PSRO program.

Another difficulty that the PSROs experienced in their relationships with HSQB were the delays in interpretations of various policies, which led to project delays. In some instances, specific legal opinions were required (e.g., regarding the use of nurse practitioner physical examinations in the Colorado review system or the issue of whether binding PSRO review would supersede MR/IPR in Baltimore). In other instances, the PSROs moved more slowly than they would have otherwise because they anticipated the release of additional federal guidelines. These examples illustrate the difficulty encountered by programs that conduct demonstrations in a shifting political environment. The uncertainty of the PSRO mandate in LTC review was not lost on local agencies and added to the PSRO difficulty in asserting a firm presence on the scene.

ACTIVITIES OF THE DEMONSTRATION

Despite the complex nature of the environment, the PSRO demonstrations did indeed launch significant programs at each site. These programs are compared and contrasted in Table 3.2. As the table indicates, all the sites but Multnomah introduced some concurrent quality assurance review activity and, although often without binding authority, all sites except Utah performed either on a binding or a nonbinding basis. Generally, concurrent quality assurance procedures were integrated with CSR so that the same personnel during the same visit performed both functions simultaneously.

The scope of efforts varied widely. Minneapolis cast its entire demonstration in terms of a controlled quasi-experiment in which implementation of the PSRO program was limited to eight facilities that had the experimental therapy and a matched group of eight control facilities. Colorado and Utah also limited their efforts to a group of volunteer facilities to test different approaches to quality assurance in LTC facilities. Baltimore invested heavily in conducting surveys of all patients in chronic disease hospitals and nursing homes; this required approximately 4000 bedside assessments. South Carolina and Vermont conducted UR in each facility in the state; Charles River and San Joaquin also conducted review in most facilities in their regions, the former on a completely voluntary basis and the latter under binding authority for Medicare and as a voluntary program for Medicaid. Multnomah conducted a binding review program under both Medicare and Medicaid; however, because the review was limited to SNFs, Multnomah's total population of facilities consisted of a manageable number of 13.

Preadmission review programs (PAR) were not as well developed as AR/CSR programs, although many demonstrations did attempt some pilot work with PAR. In most instances, this activity used either hospital personnel or the PSRO reviewers involved in the hospital UR activities for LOC determinations and nursing home placement decisions; an exception was the Minneapolis approach, which required that the nursing home send a representative to the hospital to make a PAR assessment. For most of the PAR experimentation, the unit under consideration was a participating hospital; again, Minneapolis differed in that the PAR unit was organized around the nursing home. Baltimore alone among the projects developed an operational PAR program that included admission applications from patients in the community as well as in the acute hospital.

Admission review (AR) and continued stay review (CSR) were usually performed by a PSRO nurse review coordinator; exceptions were Colorado, which used a geriatric nurse practitioner, social caseworker team to conduct review, and Vermont, which used a nurse, social worker team. South Carolina used a form of delegated review for AR and, as stated above, Multnomah's entire AR/CSR system was delegated. Minneapolis developed a "systems approach" toward review that required intensive facility participation; a facility representative (usually a social worker) performed the PAR in the hospital and the AR assessment (called POP) required the participation of a multidisciplinary team of facility personnel.

In a later section of this chapter the criteria and forms for review are discussed in detail. Generally, LOC determinations were made by implicit judgments using federal guidelines (as exceptions, Colorado and South Carolina each developed a scoring method), and a range of approaches to quality assurance was developed. In addition to the Minneapolis experiment, Utah, San Joaquin, and Vermont all conducted quasi-experiments of one variety or another; these are discussed in Chapter 5 of this volume. As the far right column of Table 3.2 suggests, the PSRO demon-

Table 3.2

LTC Review Activities Conducted During the Demonstration

Site	Preadmission Review (PAR)	Admission/Continued Stay Review (AR/CSR)	Concurrent Quality Review	MCE Studies & Special Studies
Baltimore *Extent*	All CDHs from 6/76 & all NHs from 6/78	Same as PAR	Integrated with CSR	o Bedside survey of all CDH and NH patients o Congestive heart failure MCE in 25 NHs o Decubitus MCE in 5 CDHs and 3 NHs
Type	Paper review of forms mailed to PSRO	Bedside review	Informal procedures	
Outcomes[a]	More appropriate admissions; decrease waits	--	Upgrading overall care; impact on outlier home	
Bronx *Extent*	Pilot effort only	All Medicare patients in 20 of 37 NHs	Integrated with CSR	o LTC patient origin study o Community resource study o Survey of reasons for & length of Medicare approval o MCE on decubitus performed near end of demonstration not restudied
Type	Same form and criteria as AR	AR in 2 days of admission; CSR on day 15, 45, 75, 105	Diagnosis-related quality criteria applied	
Outcomes[a]	Effort discontinued	About 75% of AR review were denied, paving way for Medicaid application	Upgrading overall care	
Charles River *Extent*	All 7 hospitals	40 of 46 NHs volunteered	Integrated with CSR	o MCE on completeness of MD transfer information restudy showed impact on quality o MCE on physician coverage; o Developed management information system for review
Type	Hospital review coordinator; "Densen" form	Same form as PAR; federal guidelines for LOC	Applied PSRO quality criteria	
Outcomes[a]	Documented problems in delivery system	Same as PAR	o Upgrading overall care o Some NHs adopted PSRO form for private patients	
Colorado *Extent*	9 volunteer hospitals	35 volunteer NHs;patients reviewed up to 5 times in first 6 mos. of stay	Integrated with CSR	o Broad screening on general parameters to focus MCE topics o MCE study on vision & hearing diagnosis; no restudy o Special drug study; no restudy but feedback to NH medical directors affected quality
Type	Scoring system for LOC; done by hospital CAP coordinators	Geriatric nurse practitioner (GNP) and caseworker performed review; used PAR form	GNP and caseworker did hands-on assessment; used problem-based explicit outcome criteria	
Outcomes[a]	Documented problems in delivery system	Little impact on discharge planning despite attempts	Upgrading overall care	
Minneapolis *Extent*	18 volunteer homes included; 8 experimental & the rest control	Same population as PAR	POOA not installed until very end of demonstration	o Entire demonstration was a controlled experiment re: impact of review o Substudies included cost-benefit study; facility staff attitude survey & client post-test interview o MCE studies not included in plan
Type	Detailed form (PAP) done by NH for experimental group	Detailed assessment and planning (POP) done by multidisciplinary team in experimental homes	NA	
Outcomes[a]	Part of the system (PAP,POP) was used to test hypothesis that NHs whose personnel participated in these assessment & planning procedures would show quality differences compared with those for whom PSRO did PAP and POP; study results showed no differences between experimental and control groups. (See Chapter 5 for detailed discussion of Minneapolis experiment.)			

Table 3.2—continued

Multnomah *Extent*	Experiment in 3 hospitals	Binding SNF review for Medicare & Medicaid	None	o Facilities delegated for MCE studies with technical help from PSRO; PSRO concluded that this was not a workable format to improve quality
Type	Hospital UR coordinator, visiting nurse or hospital MSW made LOC decision	Delegated system; nurse in SNF completed form & assigned LOC; PSRO monitored 20%	NA	
Outcomes[a]	No difference in who completes PAR	--	NA	
San Joaquin *Extent*	Medicare binding & Medicaid voluntary for all pts.	Same patients as PAR; 27 nursing homes	Integrated with CSR	o 3 MCEs (decubitus, stroke, & LOC changes); no restudies o Experiment to determine impact of feedback on performance of quality guidelines o Comparison of AR & PAR o Pilot testing of telephone PAR
Type	Hospital PSRO reviewers; chart & bedside	AR in 3 days of admission; CSR at time intervals decided by reviewer	Quality checklist completed at each CSR; explicit guidelines; primarily documentation	
Outcomes[a]	25% Medicare noncertification & 3% Medicaid	Medicare noncertifications at about 20%	Feedback associated with improved quality guidelines over time	
S. Carolina *Extent*	Pilot study of delegated PAR	Binding review in 135 facilities in state	Integrated with CSR	o 2 MCEs performed in each facility per yr.; state divided into 2 regions for regional MCEs o Facility survey o LOC score developed o Comparison of MD & interdisciplinary audit groups
Type	Hospital UR coordinators using an LOC score	30 delegated NHs; in others, PSRO RN did record review	Informal; professional judgment	
Outcomes[a]	Delegating PAR to hosp. unsatisfactory	Dramatic LOC changes, reversing proportions of SNF to ICF in state	Upgrade overall quality	
Utah *Extent*	None	None	Medicaid patients in 22 volunteer NHs (5 of which dropped out)	o Experiment to test the "spin-off" effects of reviewer feedback o MCEs on completeness of physical exam, monitoring of digitalis Rx, & Class IV drugs
Type	NA	NA	Explicit process criteria for nurse record review; drug utilization reviewed through audit of Medicaid billing	
Outcomes[a]	NA	NA	Improved overall quality	
Vermont *Extent*	Pilot program in one region (2 hospitals)	Medicaid binding review in all 46 NHs	o Integrated with CSR o Also did MR & IPR	o MCE on adequacy of transfer information o Series of studies to identify dischargeable patients & facilitate discharges o Extensive other studies of impact & cost of review
Type	Densen form; done by hospital UR coordinator or LTC reviewer	Assessment form (modified "Densen" form) & implicit LOC decision	Nurse & social worker assess patients	
Outcomes[a]	Discontinued	Denial rate decreased slightly over time	Improved overall quality	

[a] Outcomes included in the table are outcomes as perceived by the PSRO.

strations engaged in a number of substudies, such as surveys and needs assessments, as well as MCE studies.

For the purposes of Table 3.2, the "outcome" of each type of review is defined as the PSRO's perception of impact. In general, the PSROs asserted that their quality assurance activities had a positive effect on the quality of care practiced in the facilities. In some instances, they buttress their claims with experimental results. Common sense suggests that the continuous presence of the review nurse in the facility would, indeed, have improved quality of care; but unfortunately, for the most part, evidence is lacking to substantiate this effect. (The problems of demonstrating impact are discussed in Chapter 5.) The perceived effect of utilization review is expressed in terms of both a substantial number of denials and terminations of benefits (South Carolina and San Joaquin) and a reduction of denial rates over time (Vermont); according to the latter, the reduction in denial rates is evidence that initial nursing home applications were becoming more accurate. Finally, because many of the programs were voluntary, the major effect of PAR, AR, and CSR was to document problems in LOC assignments as they were currently being made and to indicate bottlenecks and gaps in the delivery system.

GENERAL STRATEGY

Before initiating our fieldwork, we developed a conceptual framework in the form of a series of questions for use in comparing the general orientation and strategies of the ten projects. Those questions were cast in terms of the extent to which the PSRO considered various issues in establishing its UR and quality assurance programs. (See Table 2.3 in the previous chapter for this list of questions.)

Table 3.3 displays our rating of each PSRO across a slightly revised version of our original 13 questions. Although Rand site visitors discussed many of these items with the PSROs, these ratings constitute a judgment on the part of the Rand team. The framework was designed to be comprehensive and it was not expected that any one PSRO project would have addressed all its issues. Most demonstration projects had cast their original proposals in such a way that there was a chance all items could have been addressed. Exceptions are Utah, which did not plan any LOC determinations as part of the demonstration, and Minneapolis, which developed a proposal excluding MCE studies; for these two PSROs those sections are not applicable.

The table identifies areas to which the PSROs as a group gave greater or lesser attention. For example, no PSRO developed criteria to distinguish which seriously or terminally ill patients should be transferred from the LTC facility to the hospital. However, all PSROs that did UR gave attention to documenting patients inappropriately placed in LTC facilities or placed at inappropriate levels in an LTC facility. Less attention was given to documenting the reasons for such misplacement or to determining whether there were patients who should have been placed in an LTC facility who did *not* receive such placement. To the extent that this latter issue was considered, it was in the context of PSROs that were attempting to eliminate backlogs in one part of the system (Baltimore) or were attempting to understand why alternatives to the nursing home, such as a rehabilitation hospital, were not being considered (Colorado).

Table 3.3

Strategies for Utilization Review and Quality Assurance

Program Attribute / Site	Balt	Brnx	CR	Colo	Minn	Mult	SJ	SC	UT	VI
UTILIZATION REVIEW										
1. Extent of PSRO effort expended on detecting LTC/LOC placement										
a. Patients inappropriately placed in LTC facility	3	2	2	2	2	2	2	2	--	2
b. Patients who should have been placed in LTC and were not	1	1	1	1	--	--	--	--	--	--
c. Patients who were placed at inappropriate levels in LTC	3	1	3	2	2	2	3	3	--	2
d. PSRO differentiation between "short" and "long" stay in review activities	--	--	--	3	--	--	--	--	--	--
2. Extent of PSRO documentation of reasons for inappropriate placement/LOC										
a. Inappropriate placement because of absence of alternative resources	2	--	--	2	--	--	2	1	--	3
b. Inappropriate LOC because of lack of institutional resources	3	--	2	--	--	--	--	3	--	--
c. Inappropriate LOC or placement due to psychological/social needs	2	--	1	--	1	--	--	3	--	--
d. Detection of patients discharged from LTC to die in hospital and reverse	--	--	2	--	--	--	--	--	--	--
3. Extent to which PSRO placement/LOC determinations were based on comprehensive, patient-centered, interdisciplinary-derived criteria										
a. Criteria based on diagnosis	1	1	1	1	1	--	2	1	--	1
b. Criteria based on functional ability	2	2	3	2	2	2	--	2	--	2
c. Criteria based on nursing service needs	3	2	3	3	3	2	2	3	--	2
d. Criteria based on psychological/social needs	1	1	1	3	3	1	--	--	--	1
e. Criteria to distinguish appropriateness of transferring seriously ill or terminal patients from LTC to acute level	--	--	--	--	--	--	--	--	--	--
4. Extent of PSRO's examination of the validity of decisions about appropriate placement										
a. Decisions made on basis of LTC facility records	2	2	1	--	1	2	3	3	--	1
b. Validation of LTC records through primary data collection	3	2	2	3	3	--	--	--	--	1
QUALITY OF CARE										
5. Extent of PSRO's attempt to define quality of care in LTC facilities										
a. Consciously perceived as a function of medical care, nursing or ancillary services, and institutional conditions	2	2	2	3	3	2	2	2	2	2
b. Criteria covering psychosocial aspects of care	2	--	1	3	3	1	--	--	--	2
c. Criteria covering medication	--	--	--	3	--	1	2	1	3	--
6. Extent of PSRO's consideration of outcome measures unique to LTC										
a. Consideration of prognosis of outcome	--	--	1	2	2	--	--	--	--	--
b. Consideration of preventable and non-preventable poor outcomes	--	--	1	1	2	--	--	--	--	--
c. Consideration of LTC accountability for complete social/psychological health	1	--	--	2	3	--	--	--	--	2
d. Documentation of factors associated with social/psychological outcomes	1	--	1	3	3	--	--	--	--	3
e. Determination of appropriate information source in documenting social/psychological outcomes	1	--	1	3	3	--	--	--	--	2
f. Investment of resources in documenting patient satisfaction	--	--	--	2	--	--	--	--	--	2
7. Extent of PSRO's use of multidisciplinary and physician involvement										
a. Multidisciplinary input into problem identification, criteria writing, review, and remedial action	2	1	1	3	3	--	--	2	1	3
b. Physician input into problem identification, criteria writing, review, and remedial action	3	2	2	3	1	2	2	2	2	2
8. Extent of PSRO validation of criteria used in assessing quality										
a. Reliability determination	2	1	2	--	3	1	--	1	1	2
b. Validity determination	--	--	2	2	2	--	1	--	2	2
9. Extent of PSRO priorities setting based on major problems of under-/overservice to LTC patients	2	2	2	3	2	1	2	2	3	1
10. Extent to which PSRO review system was designed to:										
a. Detect and correct deviant performance	3	1	1	2	2	1	2	2	2	2
b. Improve average performance	2	2	3	3	3	1	1	2	1	2
11. Extent of PSRO effort to ensure that MCE studies impact quality of care										
a. Selection of MCE study topic based on a systematic plan	2	2	2	3	--	--	--	1	1	2
b. Multidisciplinary selection of MCE topic	2	2	2	3	--	--	--	3	--	2
c. Designed to ensure valid conclusions	2	2	3	3	--	1	1	1	2	2
d. Performed restudies	--	--	2	--	--	--	--	3	2	--
PROFILES AND INFORMATION MANAGEMENT SYSTEM										
12. Extent of PSRO's consideration of LTC data system										
a. Planning for most desirable form of data retrieval	2	2	2	3	3	3	1	2	--	3
b. Planning for linkages between all forms of PSRO review	2	1	2	--	--	2	2	2	--	1
c. Planning for identification of categories of deficient care	2	2	2	3	2	1	2	2	2	2
d. Establishment of cutoff points for acceptable performance	1	--	--	--	--	--	2	--	2	--
e. Establishment of norms	--	--	--	3	--	--	--	2	3	--
f. Establishment of social/psychological information into patient profiles	--	--	--	2	3	--	--	--	--	2
COSTS										
13. Extent of PSRO's effort to assess cost-effectiveness of its its activities	1	1	1	1	3	--	3	1	--	3

-- = none or not applicable   1 = minimal   2 = moderate   3 = extensive

Several PSROs stand out as being particularly attentive to psychosocial aspects of care (Minneapolis and Colorado and, to a somewhat lesser extent, Vermont and Charles River). Quality of care criteria were generally based on diagnosis or problem clusters. Criteria for drug use were less frequently developed. Consideration of outcomes was rare, especially a determination of the extent to which the patient's condition was compatible with prognosed outcomes at time of admission to the nursing home. Colorado took strides in that direction in developing criteria for expected outcomes given various problems; approaching the prognosis of outcomes another way, the Minneapolis system of review was predicated on multidisciplinary planning for each patient based on that patient's prognosis. The last item of Table 3.3 refers to consideration of cost in program planning; here we judged Minneapolis and Vermont to be on the highest end of the spectrum because they each developed a cost study, and we also deemed San Joaquin to be a demonstration that was particularly cognizant of the differential costs of programs.

Table 3.3 shows a fluctuation among programs in their specific ratings, resulting in constellations of factors descriptive of particular projects. Figure 3.1 illustrates this variation another way. Here we have characterized each of the PSROs on five broad descriptors: innovation, degree of penetration into the PSRO region, physician involvement, multidisciplinary involvement, and orientation to the PSRO as a change agent in LTC. The distribution of the programs on these dimensions again represents our judgment.

The figure suggests that tradeoffs were made in each of the demonstration programs. Minneapolis, for example, exhibited perhaps the greatest ideological commitment to the PSRO as a change agent and the highest degree of multidisciplinary involvement but, at the same time, was at the lowest end of the spectrum for physician involvement and for penetration into the PSRO area. Although innovativeness and multidisciplinary involvement sometimes varied inversely with diffusion of the program, other patterns also existed. For example, South Carolina's program was traditional in the sense of its being modeled on a hospital review PSRO program (with record review, some delegation, and a heavy emphasis on MCE studies as a quality assurance mechanism); but, simultaneously, the PSRO took an assertive stance as a change agent within the state. Similarly, although physician involvement and multidisciplinary involvement tended to vary inversely, Colorado enjoyed a high degree of both; it not only used multidisciplinary committees and multidisciplinary reviewer teams but it also had vigorous physician leadership at the staff level and its records show that physicians engaged in many hours of multidisciplinary criteria building as members of various committees.

PSRO LTC CONFERENCE

In December 1978, immediately upon completion of the first round of site visits, Rand hosted a conference to which representatives of each PSRO demonstration as well as HSQB were invited. The purpose of the conference was exploration of issues in LTC review from the perspective of the cumulated expertise of those who had been involved in the demonstrations. Areas of agreement were sought, but when consensus was not possible, the goal became a clear description of divergent viewpoints.

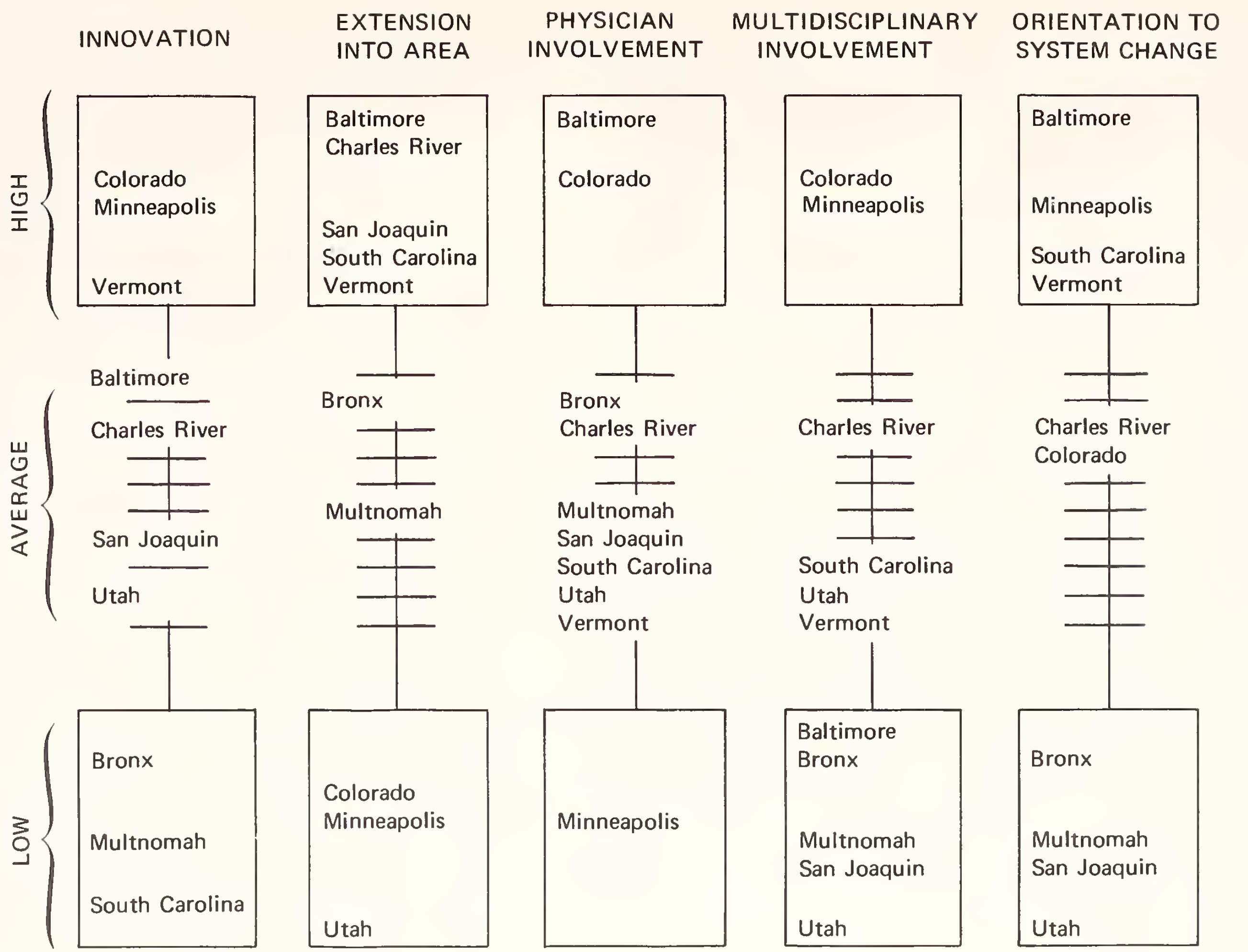


Fig. 3.1—Constrasting Orientations of LTC Demonstration Projects

Questions were prepared in advance for the participants and fell into eight general areas: (1) choice of review strategies and allocation of resources between various program components; (2) definition of appropriate outcomes to measure in LTC review; (3) the documentation of deficiencies in the LTC delivery system as a PSRO goal; (4) standard-setting and criteria development; (5) preadmission review, its purposes and methods; (6) data collection and sources; (7) feedback and intervention; and (8) creation of a data system. Representatives were encouraged to discuss the questions with their PSRO staffs and boards; several persons came to the meeting with prepared statements as a result of the preliminary discussions. Detailed notes were taken during all small group and plenary sessions.

Within a few weeks of the conference, the proceedings were summarized in a Conference Report mailed to all the participants. Thus, the conference served as a springboard for further discussions during the second round of site visits.

Although the primary agenda of the conference was embodied in the preestablished questions, a secondary task developed in the course of the two-day meeting. Challenged to address the question of whether there are identifiable problems in LTC that could be positively affected by PSRO review, each participant was invited to prepare an independent list of such problems from his or her experience. Rand's analysis of the 14 lists of problems or deficiencies found (1) that PSROs were indeed able to indicate specific LTC deficiencies against which it would be possible to measure impact and (2) that there were marked commonalities in the lists. This analysis was also included in the Conference Report along with the points of consensus and disagreement related to the eight clusters of questions. Because the Conference Report is already condensed and does not lend itself to summarization, a substantial portion of that document is appended to this volume (see Appendix A.)

COMPARISON OF LTC DATA COLLECTION FORMS

Turning now to the data collection forms utilized by the demonstrations, we found that most of the projects developed their own instruments; despite some informal communication between sites, for the most part these forms were developed independently. Generally, the forms were based on locally perceived needs, constraints, and technologies and were the product of the local PSRO committees. The usual procedure involved some expert consultation and a process of drafting, field-testing, and redrafting the instrument before a final form was adopted.

In contrast to those forms developed *de novo*, Vermont and Charles River based their assessment forms on the work of Paul Densen of Harvard University (Jones, McNitt, and McKnight, 1974). Similarly, Minnesota utilized consultation from the Hebrew Rehabilitation Center for Aged (HRCA) in its form development and incorporated several of the scales to measure functional status and mood that have been used and tested at HRCA (Sherwood, 1977). Adoption of tested measures made these PSROs feel on safer ground as far as validity was concerned. Even those constructing new instruments tended to adopt a version of the Katz Activities of Daily Living (ADL) Scale (Katz et al., 1970) because this measure of ability to perform daily living skills has found its way into common usage.

By the end of the demonstration project, each PSRO had developed one or more usable instruments for regular patient data collection. Because these ten demonstrations are one of the first large-scale attempts to assess appropriate use and quality in LTC facilities, an analysis of the forms—their structure, purposes, strengths, and weaknesses—provides an overview of the state of the art in LTC data collection. The instrument used for collecting patient data has an important influence on an LTC review system; its structure reflects the content, emphasis, degree of complexity, and, to a large degree, the utility of the information collected.

Purposes

The data collection instruments were designed to fulfill multiple purposes. These included:

1. Collection of information on which to base an LOC decision;
2. Collection of information to document and improve patient care quality, on both an individual and a facility-wide basis;
3. Fulfillment of federal and state requirements for gathering data;
4. Documentation of various LTC patient care parameters for statistical and planning purposes (including the collection of profiles);
5. Improvement of quality of care by engaging facility personnel in assessing the patients along the dimensions demanded by the form.

All these purposes are self-explanatory except perhaps the last one on the list. A number of demonstrations (Vermont, Charles River, Minneapolis) took the position that, if facility personnel were required to complete an assessment form, the very act of gathering the information would constitute a step toward quality of care improvement. There is unfortunately no clearcut evidence of this association. On the contrary, facility personnel tended to perceive the PSRO assessment as one more form to complete about the patient and a deterrent to patient care; too frequently their answers were reconstructed from the record and did not involve a fresh look at the patient. Furthermore, the costs of facility form completion at an acceptable level of accuracy may be high. Finally, when the PSRO nurse reviewer (rather than a facility person) completes a form, even from a record, because of her training she is able to identify problems in care and give immediate feedback to appropriate providers in the nursing home.

Each of the purposes noted above may be pertinent for the several kinds of LTC review—namely, PAR, AR, CSR, and CQA. Table 3.4 briefly characterizes the forms used by the various demonstration projects and indicates whether information from that form was used for the development of profiles. As the table illustrates, it was a common practice to use the same form across PAR, AR and CSR; some sites completed a new assessment form at each successive CSR (Multnomah, Vermont) and others (Colorado) used a single form with space for multiple CSRs.

Each site except Utah constructed forms that addressed the collection of data to determine LOC for individual patients. This could be accomplished by the use of a fairly short form because few pieces of data are needed to assess LOC using Medicare/Medicaid guidelines alone. A few sites that developed their own experimental systems for determining LOC required more extensive data collection forms because these systems used more complex combinations of diagnosis, functional status, prognostic judgments, or specific medical requirements to determine appropriate LOC.

Table 3.4

Forms by Function and Site During the Demonstration Period

Site	PAR	AR	CSR	CQA	Profiles
Baltimore	State PAR Form	Initial Patient Assessment Form (PAF)	CSR Form (open ended)	--	No
Bronx		AR Form	CSR Form (abbreviated AR form)	CSR Form (using diagnosis-related criteria)	No
Charles River	Patient Care Referral Form (PCRF) (p. 1)	PCRF (pp. 1-5)	PCRF (pp. 1-5)	PCRF (pp. 3-6) (using quality of care criteria)	No
Colorado	Placement Review Form (PRF)	PRF	PRF	Concurrent Review Form (CRF)	CRF form PRF profiled preadmission data by hospitals
Minneapolis	Preadmission Planning (PAP) Interview, and PAP Judgment Section	PAP Judgment Section POP	POP	--	No
Multnomah	Facility Data Collection Form (DCF)	DCF	DCF	--	No
San Joaquin	LTC Patient Evaluation Sheet (PES)	LTC PES	LTC PES	Patient Care Quality Checklist (PCQC)	PCQC data AR & CSR data
South Carolina	--	Uniform LTC Data Abstract (LTCA)	--		AR data and discharge data
Utah	--	--	--	Case Abstract (CA) Intervention Checksheet (IC) (using diagnosis-related criteria)	Exceptions to intervention guidelines
Vermont	--	Patient Assessment Form (PAF) (pp. 1-4)	PAF (pp. 2-4)	MR/IPR Form	IPR/MR only

The forms of many, but not all, demonstrations had the capacity to collect data to document the level of quality of care. Because of definitional and other problems related to quality assessment, however, only a few demonstrations were actually able to assemble meaningful data about quality and even fewer were able to show improved quality related to interventions that were based on such data. Some sites relied almost exclusively on the MCE method for their quality assurance activities; others depended also on reviewer observations of care that appear to be independent of the data form itself.

Half of the demonstrations created profiles based on at least some data obtained from the forms; a few collected extensive amounts of data in ambitious attempts to be complete and innovative, but at high manpower costs. Collecting more data may or may not be better (depending on how it is eventually used) because of the costs, time, and dangers of "data overload." Also, extremely detailed, extensive (and expensive) data collection may not be necessary to fulfill the basic functions of LTC review.

Structure and General Features

Table 3.5 compares the application of the data collection forms across a number of dimensions by site. Most PSROs used a combination of chart, bedside assessment (observation without direct physical examination), and staff interview to gather information; in Colorado, a physical examination by the geriatric nurse practitioner was part of the review procedure. Generally, the review was conducted by a nurse; in three cases (Colorado, Minneapolis, and Vermont) the data collection including assessment was performed by a multidisciplinary team involving social caseworkers and other ancillary personnel as well as nurses.

Table 3.5 also indicates the kinds of questions used on the forms. Here there was considerable variation within individual forms so that a single form might use checklists, multiple-choice questions, and open-ended questions. A form could simultaneously be used to record information according to precoded categories and to make observations of a case-specific nature about the patient's problems and treatment.

Some efforts were made to establish the reliability of the data collection. The most common method involved intensive practice during training to achieve high reliability (Baltimore, Vermont) or a reassessment of a subsample of patients either by another reviewer or by a supervisor (Utah, South Carolina). Under the Multnomah delegated review system, the PSRO reviewed a 20 percent sample of LTC patients as a reliability check. Validity of the elements in the data collection forms is a more elusive matter. The two PSROs that used a version of the Densen form asserted that this instrument was already validated. The most extensive validity checking performed under the demonstrations occurred in Colorado. After discrepancies among the three reviewer teams were noted, a physician monitored a sample of the nurse practioners' reviews and a social work supervisor monitored the caseworkers' assessments; in these instances the judgments of the physician and the social workers' supervisor were the criterion measures against which validity was measured.

Table 3.5

STRUCTURAL VARIABLES BY FORM

Site and Form	Data Purpose	Data Source[a]	Reviewer[b]	Question Type[c]	Length (pages)	Form Origin	Reliability Tests[d]	Validity Tests[e]
Baltimore								
Patient Assessment Form (PAF)	AR (LOC/LOS)	C,B,S	RN	MC,C,OS	3	PSRO	T	0
Continuing Stay Review (CSR)	CSR (LOC/LOS)	C,B,S	RN	MC,OS	1/2	PSRO	T	0
Preadmission Review (PAR)	PAR	C	RN	MC,C,OS	2	State	T	0
Bronx								
Admission Review (AR)	AR (LOC/LOS)	C,B,S	RN	OS	1	PSRO	T	FI
Continuing Stay Review (CSR)	CSR, CQA	C,B,S	RN	OS	1/2	PSRO	T	FI
Charles River								
Pt. Care Referral Form (PCRF)	PAR, AR, CQA	C,S	RN	MC,C,OS,OL	6	Densen & State	F	F
Colorado								
Placement Review	PAR,AR,CSR	C,B,S	M	MC,OS	1	PSRO	0	0
Concurrent Review	AR,CSR,CQA	C,B,S,HO	M	MC,C,OS	14	PSRO	0	A
Minneapolis								
Preadmission Planning (PAP)	PAR	B,S,C,	RN	MC,C,OS	62[f]	PSRO & HRCA	T	0 (F)
Problem-oriented Planning (POP)	AR,CSR	B,S,C,HO	M	MC	34	PSRO & HRCA	T	0
Multnomah								
Facility Data Collection Form (FDCF)	PAR,AR,CSR	C,S	RN	MC,C,OS	1	PSRO	SC	0
San Joaquin								
LTC Patient Evaluation Sheet (PES)	PAR,AR,CSR	C,B,S	RN	MC,OS	2	PSRO	SC	SM,FI
Pt. Care Quality Checklist	CQA	C	RN	MC,OS	4	PSRO & SEARCH	0	0
South Carolina								
Uniform LTC Data Abstract (LTCA)	AR	C,S	RN	MC,C,OS	4	PSRO	SC	SM,FI
Utah								
Case Abstract (CA)	CQA	C,S	RN	C,MC,OS,OL	2	PSRO	SC	0
Intervention Checksheet (IC)	CQA	C	RN	C	1	PSRO	SC	0
Vermont								
Patient Assessment Form (PAF)	AR,CSR	C,S,B	M	MC,C,OS	4	Densen	F	SM,F
Medical Review/Independent Professional Review (MR/IPR)	CQA	C,B	M	MC,OS	2 1/2	PSRO & State	0	0

[a] C = Chart
S = Staff
B = Bedside Review
HO = Hands-On Review

[b] RN = Single Reviewer (usually a nurse)
M = Multidisciplinary Reviewers

[c] MC = Multiple Choice
C = Checklist
OL = Open, Long Answer
OS = Open, Short Answer

[d] T = During Training
SC = Spotcheck by Supervisor or PSRO
F = Form Previously Checked for Reliability
0 = None

[e] SM = Compared with State Monitoring
FI = Compared with Medicare Fiscal Intermediary Determinations
A = Independent Assessment by Experts
F = Form Previously Validated by Originator

[f] Later the information was collapsed into a three-page summary for PAP and a four-page summary for POP.

Specific Content Comparisons of Forms

An item-by-item comparison of the data forms developed by each demonstration project reveals enormous variation among the sites. We have classified the items into five categories: physical functioning, behavioral/psychological functioning, medical status, rehabilitation potential (prognosis), and patient care. In App. B we present a tabular display comparing the items in each of these categories on the forms developed by the projects and on two nationally developed suggested data formats: PACE II (U.S. DHEW, 1978a) and the Minimum Data Set for LTC (U.S. DHEW, 1978b).

PACE II (like its forerunner, PACE I) is a model system for patient assessment and care planning developed by HEW and seen as a tool to upgrade recording and patient care in nursing homes. The DHEW Minimum Data Set for LTC is a listing of elements deemed essential for an LTC data set by a Technical Consultant Panel of the U.S. Committee on Vital and Health Statistics. These two tools are included in the comparisons of assessment forms developed by the PSRO demonstrations not because they are considered ideal but because they do represent recent compilations of expert opinion about the elements of data required for an LTC review system.

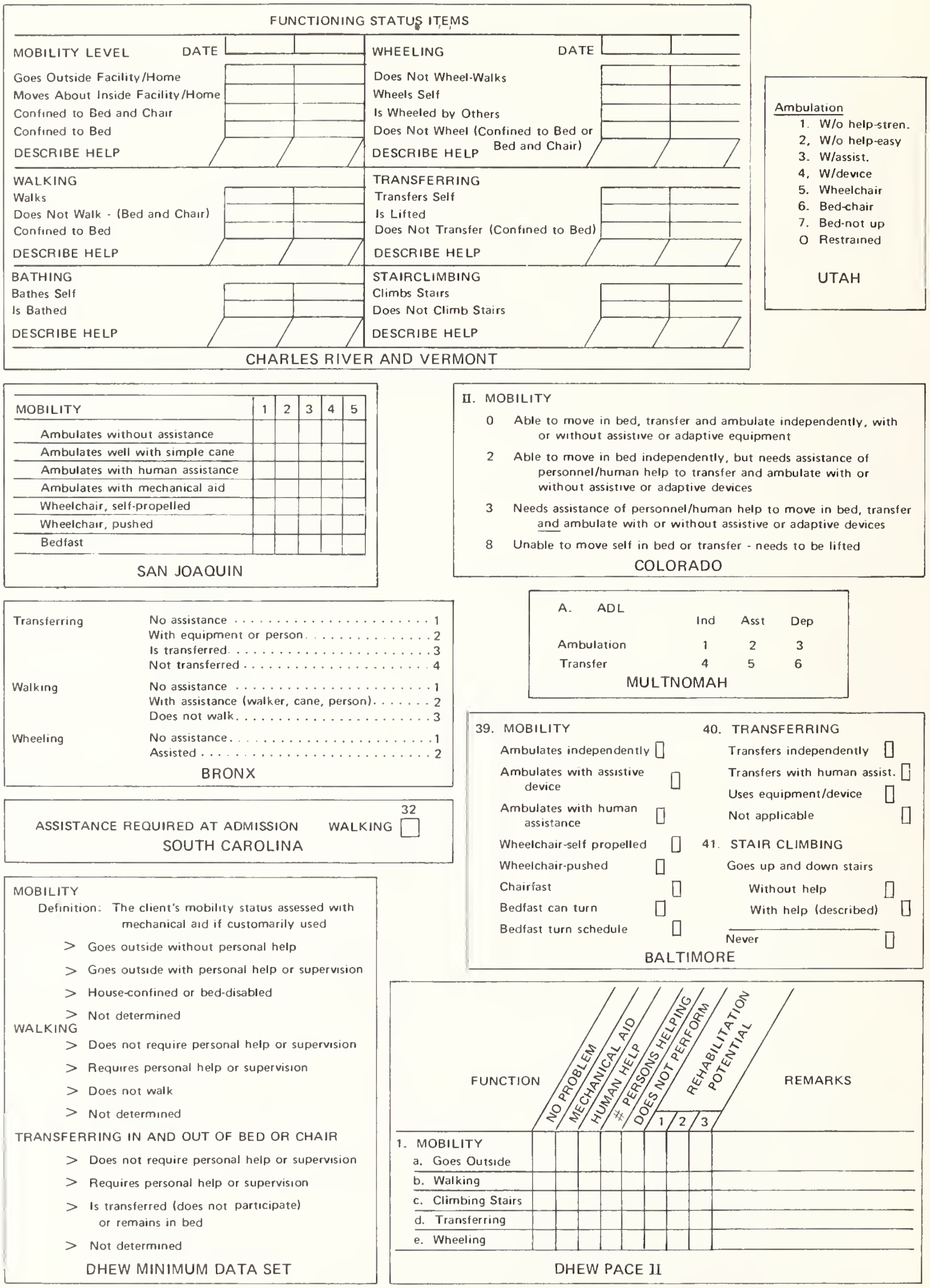
In the narrative below, which is organized by item category, we provide examples of the different approaches to assessment. The reader is referred to App. B for complete information about the forms.

Physical Functioning. Although all forms include substantial sections for physical functioning, there is still a very wide range from 44 items (Minnesota PAP) to four items (South Carolina). Items on mobility (including walking, transferring, wheeling, and stair climbing) are prominent parts of the physical function sections of most forms. The number of different items concerning mobility on a form ranges from 13 (Minnesota PAP) to one (South Carolina). As shown, each question permits from two to eight possible choices.

Figure 3.2 gives a flavor of the differences among forms. It shows the actual sections of the forms that pertain to mobility items (except for the sections from Minneapolis, which extended over five pages and are too extensive to include). It illustrates (1) the variation in quantity of data felt important by the various demonstrations and experts, (2) differences in categorization of similar data, (3) different techniques for recording similar data, and (4) differences in scaling.

Both the importance and the complexity of data categories varied from site to site. Certain categories of data (e.g., mobility, toileting, and physical impairment) are considered both important and complex by all sites in that all sites include them and most sites devote multiple items to them. Others, such as dressing and eating ability, are felt to be important and are included in almost all sites but are apparently not considered to be so complex because most sites assess them with a single item. Some, such as bathing and grooming ability, are considered important only to a few sites and in most of these sites are not considered complex enough to require more than a single item for measurement.

Behavioral/Psychological Functioning. Behavioral and psychological functioning are emphasized less than physical functioning. Further, there is less agreement among sites as to which categories are important and how to document them. There is also more variation among sites in the quantity of data collected on this topic.



FUNCTIONING STATUS ITEMS

MOBILITY LEVEL	DATE	
Goes Outside Facility/Home		
Moves About Inside Facility/Home		
Confined to Bed and Chair		
Confined to Bed		
DESCRIBE HELP		

WHEELING	DATE	
Does Not Wheel-Walks		
Wheels Self		
Is Wheeled by Others		
Does Not Wheel (Confined to Bed or Bed and Chair)		
DESCRIBE HELP		

WALKING		
Walks		
Does Not Walk - (Bed and Chair)		
Confined to Bed		
DESCRIBE HELP		

TRANSFERRING		
Transfers Self		
Is Lifted		
Does Not Transfer (Confined to Bed)		
DESCRIBE HELP		

BATHING		
Bathes Self		
Is Bathed		
DESCRIBE HELP		

STAIRCLIMBING		
Climbs Stairs		
Does Not Climb Stairs		
DESCRIBE HELP		

CHARLES RIVER AND VERMONT

Ambulation
1. W/o help-stren.
2. W/o help-easy
3. W/assist.
4. W/device
5. Wheelchair
6. Bed-chair
7. Bed-not up
O Restrained

UTAH

MOBILITY	1	2	3	4	5
Ambulates without assistance					
Ambulates well with simple cane					
Ambulates with human assistance					
Ambulates with mechanical aid					
Wheelchair, self-propelled					
Wheelchair, pushed					
Bedfast					

SAN JOAQUIN

II. MOBILITY

0 Able to move in bed, transfer and ambulate independently, with or without assistive or adaptive equipment

2 Able to move in bed independently, but needs assistance of personnel/human help to transfer and ambulate with or without assistive or adaptive devices

3 Needs assistance of personnel/human help to move in bed, transfer and ambulate with or without assistive or adaptive devices

8 Unable to move self in bed or transfer - needs to be lifted

COLORADO

Transferring	No assistance	1
	With equipment or person	2
	Is transferred	3
	Not transferred	4
Walking	No assistance	1
	With assistance (walker, cane, person)	2
	Does not walk	3
Wheeling	No assistance	1
	Assisted	2

BRONX

A. ADL

	Ind	Asst	Dep
Ambulation	1	2	3
Transfer	4	5	6

MULTNOMAH

ASSISTANCE REQUIRED AT ADMISSION WALKING 32 ☐

SOUTH CAROLINA

39. MOBILITY
- Ambulates independently ☐
- Ambulates with assistive device ☐
- Ambulates with human assistance ☐
- Wheelchair-self propelled ☐
- Wheelchair-pushed ☐
- Chairfast ☐
- Bedfast can turn ☐
- Bedfast turn schedule ☐

40. TRANSFERRING
- Transfers independently ☐
- Transfers with human assist. ☐
- Uses equipment/device ☐
- Not applicable ☐

41. STAIR CLIMBING
- Goes up and down stairs
  - Without help ☐
  - With help (described) ☐
- ________________
- Never ☐

BALTIMORE

MOBILITY
Definition: The client's mobility status assessed with mechanical aid if customarily used
- > Goes outside without personal help
- > Goes outside with personal help or supervision
- > House-confined or bed-disabled
- > Not determined

WALKING
- > Does not require personal help or supervision
- > Requires personal help or supervision
- > Does not walk
- > Not determined

TRANSFERRING IN AND OUT OF BED OR CHAIR
- > Does not require personal help or supervision
- > Requires personal help or supervision
- > Is transferred (does not participate) or remains in bed
- > Not determined

DHEW MINIMUM DATA SET

FUNCTION	NO PROBLEM	MECHANICAL AID	HUMAN HELP	# PERSONS HELPING	DOES NOT PERFORM	REHABILITATION POTENTIAL 1	2	3	REMARKS
1. MOBILITY a. Goes Outside									
b. Walking									
c. Climbing Stairs									
d. Transferring									
e. Wheeling									

DHEW PACE II

Fig. 3.2—Patient Mobility Items Compared Across Forms

For example, in assessing mental function, most sites include only a three- to six-choice item to document either level of consciousness or degree of confusion; however, the Minnesota PAP includes both a formally administered mental status test and a 14-item check list of mental status symptoms. To exemplify potential problems in reliability, some forms include only an open space to record a subjective judgment of mental function or to insert observations.

In addition to the data noted in the table (App. B), Minnesota included various other behavioral items—e.g., sleep patterns, sexual interests, and sexual capabilities. Only a few forms include items devoted to describing a patient's cultural or social background. Minneapolis included 38 such items; Charles River and Vermont included three each; and Colorado and Baltimore had one each. Such items include questions on educational background, languages spoken, occupation, economic information, social resources, and religious background.

Medical Status Items. The demonstration forms vary widely in the number of spaces provided where individual diagnoses can be recorded, varying from one to eight. The mean was about four spaces. In addition, three forms contain checklists of various diagnostic possibilities, varying from 14 to 39. This variability could be attributed to a number of factors including differing coding systems for specifying diagnosis, differing sets of assessment criteria (some of which are diagnosis-related) and other differing needs for diagnostic completeness. However, only one form contains space for listing data from a physical examination, although six have space for listing various vital signs. Three demonstration sites have no space at all for any data related to a physical examination. The small amount of physical examination data in the various forms is striking. Two forms contain open fields for the notation of recent or other important surgical procedures and one has a list of such procedures; other forms require that surgery be listed under "diagnosis."

Only five of the ten sites provide for listing some laboratory data. Three of the five have one or more fields for recording actual laboratory results, and two of the five have "normal/abnormal" choices for specific tests. Four specify the inclusion of information on hemoglobin, hematocrit, or CBC (complete blood count) data. Three specify including data on urinalysis, potassium, blood sugar, and BUN (blood urea nitrogen) or creatinine. Two specify data from chest x-ray and ask for digoxin level. One includes space for listing ECG findings.

Rehabilitation Potential (Prognosis). Only three demonstration sites have forms with space for listing some kind of prognostic assessment. The lack of emphasis on prognosis is striking, but perhaps it reflects the difficulties in achieving accuracy in prognostication among LTC patients.

This section illustrates the lack of emphasis on medical status items. Except for listing diagnosis and perhaps some recent vital signs and results of lab tests, very little medical status information is recorded. Reasons for this include lack of agreement on how to use the information and the heavy emphasis given to such other areas as functional status and nursing care needs by reimbursing agencies.

Patient Care Items. More information on patient care needs is collected than information on medical status items. All the sites, for example, include at least some information related to medications received by the patient, either in the form of a checklist or open-ended spaces for listing. There also seems to be general agreement that specific nursing services should be documented; all but three sites have allowed for this information, six in the form of checklists. Similarly, most sites give some attention to collecting information about specific ancillary services received and dietary requirements. Half the forms provide information about frequency of physician visits; fewer include services related to help with activities of daily living, patient education, or social activities.

Comments on Forms

Although most of the demonstrations developed their data collection forms independently, there are marked commonalities in the elements across sites. Functional status information, although collected in varying detail, was almost always included and similar items were used to make up the construct. This consistency is attributable in part to the fact that functional status provides a common denominator across patients who otherwise are not comparable because of their varying and complex medical conditions; functional status measures make it possible to compare the progress of patients over time and thus provide one basis for quality assurance activities. Unfortunately, the psychosocial dimensions of functional status—including mental status and its very important concomitant "orientation"—are more crudely and less uniformly assessed by these forms. (For example, mental orientation was sometimes assessed by a single choice among "oriented, partly disoriented, and very disoriented.") Items dealing with affect are even less well established although one would expect that changes in mood, satisfaction, and personal comfort over time (after controlling for functional status and other important variables) would be important proxies of the quality of care.

Again with variation among sites, most forms contained checklists or fields for information on drugs, nursing services, diet, and ancillary services. This emphasis is dictated by the fact that services prescribed and services received are the most important data for LOC determinations.

The structure and content of the forms were closely related to the purposes the sites set for data collection. Forms designed to assist with quality assessment, as a rule, contained more behavioral and functional status questions than are needed solely for LOC determinations. Sites that viewed the PSRO function in LTC as most appropriately directed toward changing the delivery system tended to collect more information routinely. *A priori* analysis plans were not generally developed, and often there were no predetermined ideas about how changes in the various items collected on assessment forms might reflect changes in quality of care.

A number of questions need to be addressed in relation to data collection formats for LTC review; the issues revolve around the purpose of the data collection as well as the need for some consensus about how much information is needed to fulfill each purpose. There is a poorly defined line between collecting enough data to be precise and complete on the one hand and collecting an excess of data, leading to inefficient and wasted resources, on the other. The relationship between quantity of data and its quality has not been tested empirically across the LTC demonstrations, but there is some logic suggesting that, beyond a certain point, the quality of the information may vary inversely with the amount sought. In fact, few of the PSROs can claim that their data sets are sufficiently reliable for the purposes for which they will be used; and, in some instances, the accuracy and completeness of the information are questionable. (For a discussion of the general adequacy of the data bases generated by these forms, see Chapter 4.)

Even though almost all demonstrations sought information about common elements, the variations in approach render it impossible to make cross-site comparisons or overall statements about LTC across PSRO areas. We are aware that there was some discussion at the outset of the demonstrations about using common measures across sites but that the state of the art was considered to be too rudimentary to endorse a single form. The state of the art is still imperfect, yet we would suggest that PSRO LTC review should now introduce and define some minimal data elements for routine inclusion in such activities. Such a floor of common information would not need to be extensive and would still permit room for individual sites to collect additional data that they can justify, but it would also permit some important comparisons to be made across sites, especially if the data were collected with a rigorous attention to quality control. (Chapter 9 contains some recommendations on this subject.)

A final comment on the data collection instruments concerns the importance forms can assume in dictating substance. Below we discuss criteria development. Presumably the form is merely a vehicle for recording the information needed to apply the criteria, and the criteria themselves are the heart of the review system. Ideally, a PSRO would first develop its criteria, together with a statement about the minimal descriptive data base necessary, and only then develop a collection form. Even when this sequence is observed, however, the forms, once in place, develop a life of their own, influencing what people deem important and what they observe. They prove rather resistant to change and, in some cases, particularly in Vermont, have become a symbol of conflict between the PSRO and the community. If the forms are to be used for profiling information in a manual or particularly in an automated system, they must be designed carefully to facilitate this use; furthermore, if they are changed with any frequency, the validity of the trends reported by the PSRO is in question. For all these reasons, the careful construction of the data collection forms is an important enterprise around which multiple inputs are required.

COMPARISONS OF CRITERIA

Level of Care Criteria

Criteria construction for LOC determinations can be viewed as either a straightforward task or a very complex one. The first position holds that the criteria are essentially already in place because the PSRO's responsibility in this regard involves application of the Medicare and Medicaid guidelines. The second position holds that the guidelines are general and vague, leaving the PSRO with the task of developing operational measures. Some PSROs have attempted greater specificity by developing examples for the different levels of care. In any case, most PSROs have promulgated and explicated the federal guidelines so that LTC facilities, physicians, and patients would better understand the legal requirements for the LOC decision.

Bronx PSRO developed diagnostically-related criteria for admission to nursing homes. During the demonstration admission decisions were made on the basis of implicit judgments according to the federal guidelines for skilled care, but at the end of the demonstration the results of the applications of the implicit judgments were compared with the results of application of the diagnostically-related criteria for admission. We understand that more admissions were justified by the diagnostically-related criteria than by the implicit judgment, but this study was not available for us to review and include in our present report.[1]

Application of LOC criteria required an implicit judgment to determine the degree of nursing services required. The Baltimore PSRO expended considerable effort in attempting to achieve a high standard of reliability in rendering these judgments by developing training and practice sessions for reviewers. Other PSROs settled for supervisory spot-checking of reviewers' LOC decisions. Because the Baltimore PSRO did give attention to reliability and because the implicit judgment was such a common feature of the rendering of LOC decisions, we have performed an analysis of the Baltimore survey data of all 3585 patients in nursing homes in the PSRO area in an effort to seek an algorithm that could reproduce and explain the implicit LOC decisions.

Before we turn to the Baltimore analysis, it is important to note two different attempts to add specificity and objectivity to LOC decisions through the use of scoring systems. Scoring systems recognize explicitly that, in fact, LOC determinations require many judgments about the nature of the care needed, the restorative potential of the patient, and the degree of skill required for needed procedures.

Scoring Systems for LOC Determinations

LOC determinations have come under criticism because the designation of SNF and ICF levels, tied into either cost or per diem reimbursement systems, has been charged with creating disincentives for rehabilitation of patients. The greater the patient's dependency, the higher the possible rate of payment. Regardless of whether LOC distinctions as we know them now are retained, however, a monitoring body must be able to distinguish those services required by the patient and to make judgments about whether the care available meets, exceeds, or falls short of the service requirements. Because such decisions are crucial to both quality assurance and UR, it is discouraging that the technology of criteria development in this direction is lagging.

Two demonstration projects, Colorado and South Carolina, experimented with a scoring system to make LOC determinations. Table 3.6 compares the two systems; liberties were taken with the exact wording in the interests of space.

To comply with federal guidelines for a skilled service, both scales were developed so that prescribed services that automatically rendered the patient eligible for a SNF bed (physical therapy, tube or intravenous feeding, etc.) were given the full complement of SNF points. South Carolina's criteria, however, are more explicit than Colorado's on the conditions under which such services will receive such points (e.g., routine catheter care for incontinence was not given the full complement of SNF points).

Both the Colorado and South Carolina scales give some specificity to the concept of "aggregation of unskilled services" as an eligibility criterion for SNF. Presumably, when enough unskilled services are required or enough patient functional disability is present, the cumulative score will be high enough to justify the skilled care. Colorado's scoring of functional ability was weighted in a more complex manner than South Carolina's; beginning with "0" for independent functioning, the Colorado LTC committee devised the weightings for the intervening levels of need based on its conclusions about the implications for care required. In contrast, the South Carolina score is less attentive to weighting of functional status items. There are also slight differences in the interpretations of items. For example, Colorado tends to give a "0" on an item if the individual can perform the function with mechanical help or if medications are needed but can be self-administered by the patient, whereas South Carolina tends to award a few points for the need to use a device or the existence of a daily medicine regimen.

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[1] The Bronx PSRO released its final demonstration report well after the completion of the Rand assessment and too late to be considered in our discussion. The reader is referred to that report (Bronx PSRO, 1979) for some additional discussion of the use of BPSRO's diagnostically-related criteria.

In keeping with Colorado's general persuasion, the Colorado scale gives attention to psychosocial factors. A particularly interesting item on the Colorado scale is Item III, which deals with the ability to plan and prepare meals. (Performance on this item is not given a score because it has no relevance to the LOC required in a nursing home.) Colorado's scale also contains specific items on vision and hearing that are not found on the other scale. However, South Carolina gives much more specificity to the kinds of rehabilitative services that might be required and places differential weighting on them in contrast to Colorado, which has a catchall full-point category for "skilled nursing services." Particularly interesting were South Carolina's last three categories: instructional needs, rehabilitative services, and special treatments or services.

Both scales were developed for preadmission review. Colorado presented some data regarding the application of its scale. By noting the wide range of scores, the Colorado demonstration project was able to show the great differential in care needs among patients designated as skilled. In this way, Colorado identified a group of "superskilled" patients with scores in excess of 80 points; presumably such patients have very different care requirements than those with scores of 15-20 points, although all meet the legal definition of skilled.

South Carolina used its scale during a pilot study of PAR. Hospital UR coordinators who made the LOC determinations were very positive about the scoring device, indicating that it simplified decisionmaking. In contrast, the PSRO LTC committee developed reservations about the use of such a scale; it was feared that publication of a weighted score for LOC determinations would indicate all too clearly to providers how to combine services to render patients eligible for certification. The "corruptibility" of a measure when it is used as a basis for a social benefit is well known and is a possible argument against a level of care scale. The nursing home industry in South Carolina, however, was no more eager for a scale than the LTC committee; industry protest combined with internal PSRO reservations led South Carolina to abandon its LOC score.

Attaining more precision in judgments about the extent of services needed and the rehabilitative potential of patients seems a very important task for PSRO LTC review but one that has received surprisingly little attention. Work on instruments such as the two described here merits continuation and expansion.

Rand Analysis of Colorado Data

The interest in the use of explicit criteria in making decisions regarding the level of placement prompted us to take advantage of the data collected by the Colorado PSRO to explore the relationship between appropriate level of placement

Table 3.6

A Comparison of Two LOC Scoring Procedures Developed by the Demonstrations

Colorado

I. ACTIVITIES OF DAILY LIVING

A) Dressing

0 Able to dress independently
1 Dresses with assistance
2 Total assistance required
4 Does nor or should not be dressed

B) Bathing

0 Able to bathe without assistance
1 Able to bathe with some assistance
2 Assistance of more than one person needed
4 Bed bath only

C) Continence of Bladder

0 Complete control of bladder with or without equipment
1 Assistance less than daily with bladder control or catheter care
3 Assistance daily with bladder control or catheter care
5 Needs total management of bladder

D) Continence of Bowel

0 Complete control of bowel with or without equip.
1 Assistance less than daily with bowel control or colostomy care
3 Assistance daily with bowel control or colostomy care
5 Needs total management of bowel

E) Personal Hygiene

0 Able to perform without assistance
1a Needs assistance of one person
1b Needs assistance of more than one person
2 Unable to care for personal hygiene needs

F) Eating and Feeding
0 No assistance needed (with or without adaptive equipment)
1 Needs assistance
3 Must be fed by others
15 Tube, gastrostomy, IV feedings required

II. MOBILITY

0 Transfers, ambulates and moves in bed
2 Moves in bed independently but needs human help to transfer or ambulate
3 Needs human help to move in bed, transfer or ambulate
8 Unable to move in bed; requires lifting

III. ABILITY TO PLAN AND PREPARE MEALS[a]

A) Able to obtain, plan, and prepare diet independently
B) Requires shopping assistance
C) Requires planning and preparation assistance
D) Requires total assistance for dietary needs

IV. SENSORY STATUS

A) Vision

0 No impairment or corrected impairment
2 Partial impairment, not corrected
6 Legally blind

B) Hearing

0 No impairment or corrected impairment
2 Partial impairment, not corrected
6 Legally deaf

V. COMMUNICATION

0 Communicates without impairment
1 Able to make needs known
4 Makes needs known with difficulty or inconsistently
12 Unable to understand or make needs known

VI. SKIN CARE

0 Skin intact
1 Intact with maintenance care (rashes, dry skin, dermatitis, etc.)
4 Minor irritations or pressure areas
12 Open skin lesions (decubiti, post-op wounds)

VII. MEDICATIONS, INJECTIONS, IV FLUIDS

0 No medications or self-administration of same
1 Assistance to administer medications
8 Monitoring required for medication regimen
15 Requires IV, intramuscular or subcutaneous medications or fluids

VIII. MOTIVATION

0 Self-directed in decisionmaking
1 Requires encouragement but follows through
2 Requires encouragement to initiate and follow through with activities
8 Apathetic, expresses desire to die

IX. BEHAVIOR

0 Appropriate, cooperative, responsive
2 Wandering, intermittently confused
7 Aggressive, abusive, disruptive
15 Total confusion or comatose

X. ORDERED THERAPIES

15 Physical therapy
15 Occupational therapy
15 Speech therapy
15 Respiratory therapy
15 Skilled nursing (i.e., catheter care instruction colostomy care instruction)

SCORE:

SNF = 15 +
ICF = 8 to 14
RESIDENTIAL = 1 to 7

Table 3.6—continued

South Carolina

I. LOCOMOTION

0	Ambulatory, fully weight-bearing
1	Ambulatory with device
2	Independent in wheelchair
3	Dependent in wheelchair (nneds help to transfer)
4	Bedbound (up no more than 2-3 hours per day)

II. CONTINENCE

0	Fully continent
1	Occasional or temporary loss of control
2	Incontinent of feces only
3	Incontinent of urine
4	Incontinent of feces and urine

III. FEEDING

0	Independent in feeding; no dietary restrictions
1	Independent in feeding, but one or more diet restrictions
2	Help required to set up, cut food, open containers, etc.
3	Needs help eating and in supervision of habits
4	Must be fed or retaught eating
23	IV or tube feeding

IV. MEDICATIONS

0	None at present
1	Infrequent, PRNs
2	Daily medications
3	Daily medications with vital signs
23	Intensive or complicated daily regimen, PRN, IM, or IV

V. MENTAL STATUS

0	Alert
1	Confused or forgetful at times
2	Confused but generally cooperative
3	Confused and depressed
4	Confused and belligerent or retarded
23	Chronically abusive to self or other; physical violence uncontrolled by medication (applicable only in facilities providing psychiatric care)

VI. ACTIVITIES OF DAILY LIVING

0	Independent
1	Awkward and slow; some assistance with bathing, hygiene
2	Assistance with bathing, oral hygiene, hair, dressing
4	Complete bed bath
6	Restorative program (to increase independence in ADL)

VII. REACTION TO ILLNESS AND INSTRUCTIONAL NEEDS

0	No need for teaching
1	Maintenance teaching (reminding) and supervision
2	Limited teaching (some patient resistance)
3	Continuous teaching and supervision with no probable discharge
23	Skilled teaching for self-maintenance
23	Skilled teaching of family for patient maintenance

VIII. REHABILITATIVE SERVICES

0	Routine social activity program
2	Range of motion exercises
10	Bladder training with rehabilitative potential
10	Bowel training with rehabilitative potential
23	Bowel and bladder training with rehabilitative potential (permissible for non-paraplegics for three months)
3	Meal training
1	Reality orientation
3	Remotivation therapy
5	Progressive ambulation program
23	Physical therapy, occupational or speech therapy (must be given five times or more weekly by qualified therapist to patient with rehabilitation potential)

IX. SPECIAL TREATMENTS AND SERVICES

1	Minor skin care and dressings; two Grade I and II decubiti
23	Grade III and IV decubiti
23	Respiratory therapy (applicable until patient stabilizes)
23	Nasopharyngeal and tracheotomy aspiration
23	Ostomy care (applicable only for six weeks post-op)
23	Sterile dressings involving Rx medications
23	Insertion, irrigation or replacement of catheters (routine catheterization for incontinence not included)
23	Heat treatments ordered by MD as part of treatment
5	Intake and output
3	Inhalation therapy maintenance
2	Behavior observation
2	Vital signs every four hours
2	Diet management
3	Sitz baths
3	Whirlpool treatments
5	Positioning for body alignment

SCORE:

SNF = 23 +
ICF = 9 to 22

---

[a] This item was not used to calculate an LOC score because it pertains to the need for admission but not to the care required.

and the subsequent course of patients in the nursing home. The Colorado review system seemed well suited to this task because it contained data at several points including data collected both at time of hospital discharge and at subsequent reviews in the nursing home. Not all patients, however, had both hospital and nursing home reviews.

The data from the Colorado PSRO Placement and Review Form for Site I (the area around Denver) were coded and entered into the computer. This form (see Fig. 3.3) has places to record information gathered at the time of preadmission review (PAR) done in the hospital and at up to five reviews performed in the nursing home. The data include a score for level of need that is based on individual LOC criteria (item 19: activities of daily living (ADL), mobility, sensory status, communication, skin care, medication, motivation, and behavior). To obtain a summary score for recommended level of care, this need score is combined with answers to a series of questions about patient and family attitudes and availability of social support systems.

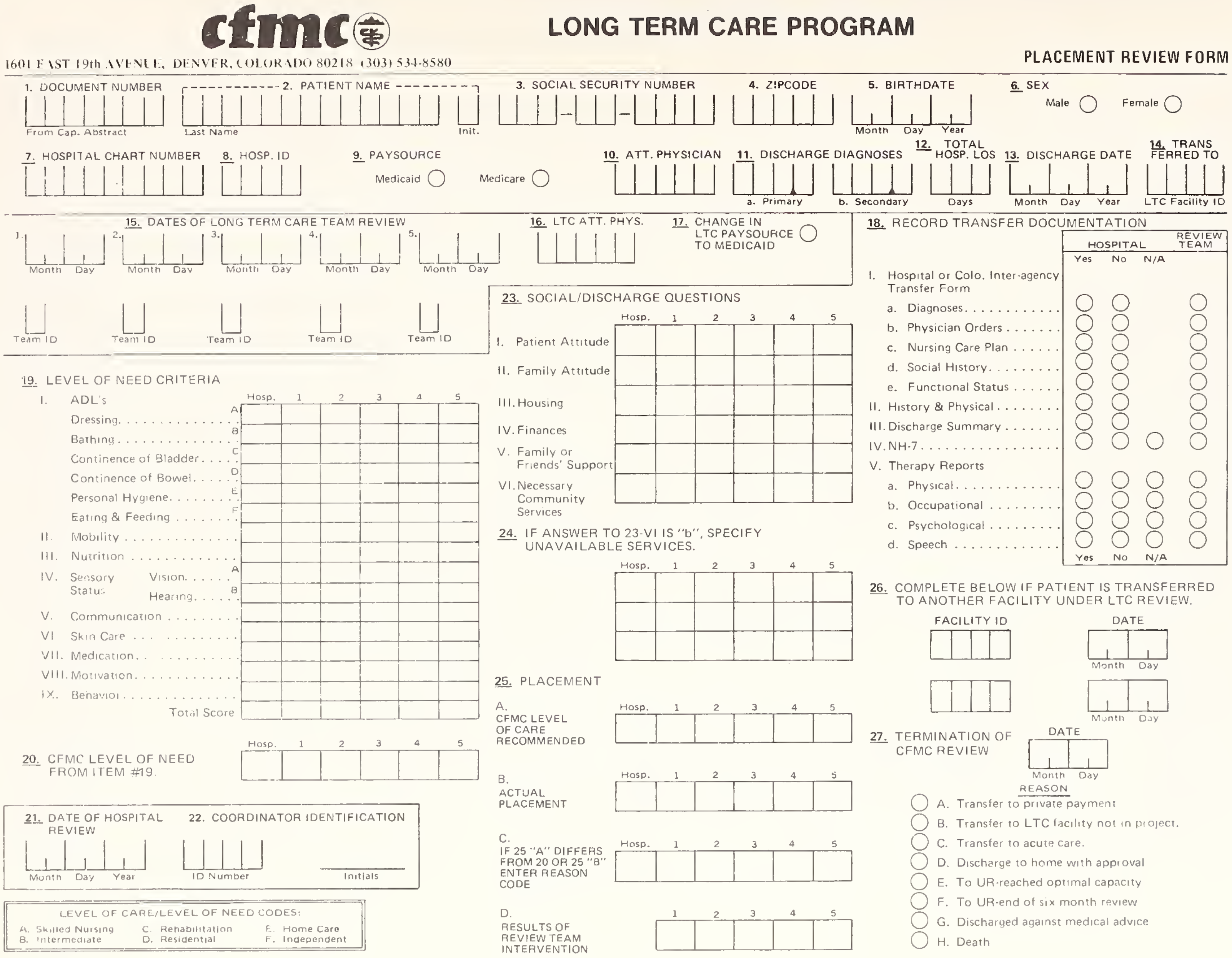
Data on level of need were available on patients with either hospital-performed PAR, nursing home CSR, or both. We elected to use the summary level of need score and scores on individual level of need criteria as dependent variables to explore what factors might predict change in patient status between reviews and to address the issue of whether placement at a level of care other than that recommended would have any effect on changes in these individual and summed measures of need over time. This latter analysis is possible because Colorado's review system was non-binding during the demonstration; therefore the PSRO recommendations were not used to determine level of care.

The first effort was directed at determining if placement at a level other than that recommended was associated with change in level of need. Measures of need were compared between time of hospital discharge and time of first review (usually about 2.5 weeks after admission to the nursing home), and between hospital discharge and third review (about nine weeks after nursing home admission). (With each review, fewer patients were included in the analysis.)

Of the 458 patients reviewed at the time of hospital discharge, 34 (7 percent) were placed at a nursing home level higher than recommended and 12 (3 percent) at a level lower than recommended. At the time of the first review in the nursing home there were data on 809 patients (a larger number because not all patients admitted to the nursing home received PAR); 127 of these 809 patients (16 percent) were at a higher level than recommended and 95 (12 percent) were at a lower level than recommended. Because not all patients reviewed in the hospital had one or more reviews in the nursing home, the sample sizes for comparison were very small, even at the time of the first review.

When the data were examined (see Table 3.7) to compare change in status on level of need with congruence of the placement recommendation, no effect of the latter could be demonstrated. This result needs to be interpreted cautiously because only 41 patients were misplaced and the analysis is based on small numbers. Similar results were obtained for the analyses that compared changes in level of function over longer time intervals.

To look further for any effect of misplacement on level of function, we used two forms of regression equations: For the overall level of need score, variables that took on integral values from 0 to 99, changes over time could be analyzed by



cfmc

1601 EAST 19th AVENUE, DENVER, COLORADO 80218 (303) 534-8580

LONG TERM CARE PROGRAM

PLACEMENT REVIEW FORM

1. DOCUMENT NUMBER ☐☐☐☐☐☐☐ From Cap. Abstract

2. PATIENT NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Last Name ☐ Init.

3. SOCIAL SECURITY NUMBER ☐☐☐-☐☐-☐☐☐☐

4. ZIPCODE ☐☐☐☐☐

5. BIRTHDATE Month Day Year

6. SEX Male ○ Female ○

7. HOSPITAL CHART NUMBER ☐☐☐☐☐☐☐☐☐

8. HOSP. ID ☐☐☐☐

9. PAYSOURCE Medicaid ○ Medicare ○

10. ATT. PHYSICIAN ☐☐☐☐☐

11. DISCHARGE DIAGNOSES a. Primary b. Secondary

12. TOTAL HOSP. LOS Days

13. DISCHARGE DATE Month Day Year

14. TRANS FERRED TO LTC Facility ID

15. DATES OF LONG TERM CARE TEAM REVIEW

1. Month Day Team ID
2. Month Day Team ID
3. Month Day Team ID
4. Month Day Team ID
5. Month Day Team ID

16. LTC ATT. PHYS. ☐☐☐☐☐

17. CHANGE IN LTC PAYSOURCE TO MEDICAID ○

18. RECORD TRANSFER DOCUMENTATION

	HOSPITAL Yes	HOSPITAL No	HOSPITAL N/A	REVIEW TEAM
I. Hospital or Colo. Inter-agency Transfer Form				
a. Diagnoses	○	○		○
b. Physician Orders	○	○		○
c. Nursing Care Plan	○	○		○
d. Social History	○	○		○
e. Functional Status	○	○		○
II. History & Physical	○	○		○
III. Discharge Summary	○	○		○
IV. NH-7	○	○	○	○
V. Therapy Reports				
a. Physical	○	○	○	○
b. Occupational	○	○	○	○
c. Psychological	○	○	○	○
d. Speech	○	○	○	○
	Yes	No	N/A	

19. LEVEL OF NEED CRITERIA

		Hosp.	1	2	3	4	5
I. ADL's							
Dressing	A						
Bathing	B						
Continence of Bladder	C						
Continence of Bowel	D						
Personal Hygiene	E						
Eating & Feeding	F						
II. Mobility							
III. Nutrition							
IV. Sensory Status Vision	A						
Hearing	B						
V. Communication							
VI Skin Care							
VII. Medication							
VIII. Motivation							
IX. Behavior							
Total Score							

20. CFMC LEVEL OF NEED FROM ITEM #19.

Hosp.	1	2	3	4	5

21. DATE OF HOSPITAL REVIEW Month Day Year

22. COORDINATOR IDENTIFICATION ID Number Initials

LEVEL OF CARE/LEVEL OF NEED CODES:

A. Skilled Nursing
B. Intermediate
C. Rehabilitation
D. Residential
E. Home Care
F. Independent

23. SOCIAL/DISCHARGE QUESTIONS

	Hosp.	1	2	3	4	5
I. Patient Attitude						
II. Family Attitude						
III. Housing						
IV. Finances						
V. Family or Friends' Support						
VI. Necessary Community Services						

24. IF ANSWER TO 23-VI IS "b", SPECIFY UNAVAILABLE SERVICES.

Hosp.	1	2	3	4	5

25. PLACEMENT

	Hosp.	1	2	3	4	5
A. CFMC LEVEL OF CARE RECOMMENDED						
B. ACTUAL PLACEMENT						
C. IF 25 "A" DIFFERS FROM 20 OR 25 "B" ENTER REASON CODE						
D. RESULTS OF REVIEW TEAM INTERVENTION						

26. COMPLETE BELOW IF PATIENT IS TRANSFERRED TO ANOTHER FACILITY UNDER LTC REVIEW.

FACILITY ID	DATE
☐☐☐☐	Month Day
☐☐☐☐	Month Day

27. TERMINATION OF CFMC REVIEW

DATE Month Day

REASON

- ○ A. Transfer to private payment
- ○ B. Transfer to LTC facility not in project.
- ○ C. Transfer to acute care.
- ○ D. Discharge to home with approval
- ○ E. To UR-reached optimal capacity
- ○ F. To UR-end of six month review
- ○ G. Discharged against medical advice
- ○ H. Death

CMFC OFFICE 1

Fig. 3.3—CFMC Placement Review Form

Table 3.7

CHANGE IN FUNCTIONAL STATUS MEASURES FROM HOSPITAL DISCHARGE TO FIRST NURSING HOME REVIEW AS A FUNCTION OF RECOMMENDED LEVEL OF PLACEMENT AT TIME OF HOSPITAL DISCHARGE, COLORADO PSRO

	Actual versus Recommended Level of Placement		
Functional Status Measure	Higher (N=32)	Lower (N=9)	Same (N=372)
Dressing			
Better	22	22	23
Worse	12	0	9
Same	66	78	68
	100%	100%	100%
Mobility			
Better	38	33	32
Worse	56	0	57
Same	6	67	11
	100%	100%	100%
Total Level-of-Need Score			
Better	56	78	60
Same or Worse	44	22	40
	100%	100%	100%

ordinary least squares regression. Because individual measures of need were trichotomous (better, worse, same), logistic regression was used to predict them after the trichotomous variable was made dichotomous by combining no change and either better or worse into one category. (Logistic regression is designed for dependent variables that are dichotomous and is used to predict probability of change as a function of various independent variables.)

The logistic regression equation was expressed in the form

$$P_c = 1/(1 + e^{-x}),$$

where P_c = probability of change in functional status (getting better or worse) and x = the sum of each of the explanatory variables times a coefficient.

For both types of regression analysis the variable of major interest in this study, namely the congruity between recommended and actual levels of placement, was included as an explanatory variable to see if it had any relationship to the variable used to measure change in patient status. Other explanatory variables included patient's sex and age, level of function at baseline period, patient's attitudes toward LTC placement, family's attitude toward LTC placement, availability of adequate housing, adequacy of finances to support planned placement, willingness and ability of family or friends to support patient in home placement, and availability of community resources to support home placement.

Regression equations developed to predict change in level of need scores accounted for very little variance (less than 15 percent). Other than the relatively strong effect of the level of need score at the time of the first measurement on the score at a subsequent measurement, few if any variables were significantly associated and none was consistently associated with changes in level of need over time. For some analyses the variables dealing with family and friends' support and availability of community resources were significantly related to changes in level of need, but not consistently. The variable of primary concern for our present purpose, the difference between recommended and actual level of placement, was not significantly related to changes in level of need in any of the analyses.

Logistic regressions were done using two separate measures of change in level of need as dependent variables: mobility and dressing. The latter is the ADL measure most likely to change first. Here, too, none of the explanatory variables available, including discrepancy between actual and recommended placement, showed any consistent relation to the probability of change in status for either of the two dependent variables.

These more complex regression analyses serve to confirm the impression derived earlier from Table 3.7, namely that no relationship can be shown between appropriateness of placement and changes in patient functional status. However, the caveats bear repeating: The sample size is small and the large majority of patients were placed at the level recommended.

Making Implicit LOC Decisions Explicit: The Baltimore Example

The Baltimore PSRO undertook a survey of all nursing home patients in its jurisdiction. Data were gathered on a sample of 3579 patients by a review team that was previously trained to maintain high reliability. The data base included information on several areas: (1) diagnosis, (2) changes in patient's overall condition, (3) activities of daily living, (4) behavior, (5) mobility, (6) incontinence, (7) mental status, (8) nursing procedures provided, (9) rehabilitative and restorative procedures given, and (10) medications prescribed. During the survey, what was felt to be the most appropriate level of care for each patient was determined by the review team on the basis of an implicit professional judgment. Training to make this judgment reliably was provided to the review team before they entered the field. The PSRO used an eight-level system for making this implicit LOC determination, within which each nursing home patient was placed. It consisted of one superskilled level, three levels of skilled care (SNF), three levels of intermediate care (ICF), and one less-than-intermediate care level. (A copy of the review form is shown in Appendix C.)

With the assistance of the Baltimore City PSRO, Rand obtained a copy of the computerized data on the 3579 patient reviews to see if any system of explicit mathematical modeling could replicate the reviewers' implicit judgments—at least in terms of separating patients requiring skilled LOC from those requiring less than skilled care. Such a model could be potentially useful for facilitating appropriate LOC placement prior to entry into an LTC facility as well as for utilization review and quality assurance activities for patients already residing in LTC facilities.

Two different mathematical approaches were used. The first used an empirical decision rule and was adapted from an approach developed by Dr. Carl Adams of the National Health Corporation to distinguish patients in need of skilled nursing care. The second used a logistic regression program that established mathematical and predictive relationships between objectively established patient parameters and LOC judgments.

Boolean Logic Empirical Decision Rule. Dr. Adams and his colleagues have used an algorithm that classifies patients as needing skilled care if they meet any of the following criteria: (1) their condition is worsening, (2) they have more than four problems (e.g., limitation of ADL, limitation of mobility, incontinence, and abnormal mental status), (3) they regularly use more than one skilled nursing procedure, or (4) they regularly use more than one rehabilitative or restorative procedure.

Table 3.8 displays the results of applying this model, along with several variations of it, to the Baltimore data. The variations relate to changes in the number of problems, number of nursing and rehabilitation procedures, and use of number of medications in distinguishing skilled from unskilled care. In the table, the patient is classified as skilled by the model if any one of the criteria is met and as less than skilled if none is met. Predictive accuracy (the degree to which the model predicts the reviewers' judgments) varies considerably depending upon the criteria set chosen. Criteria Set #1 has the best overall predictive accuracy: 69 percent of LOC decisions made by the Baltimore City PSRO review team were correctly predicted by it with 71 percent of the skilled LOC decisions and 69 percent of the non-skilled LOC decisions correctly predicted. With other criteria sets, it was possible to achieve very high levels of correct identification of skilled care patients (95 percent in Set #6) but at the cost of incorrectly labeling many who did not need skilled care as needing it—higher sensitivity but lower specificity for identifying skilled care.

Which criteria set is best will depend on the use to which it would be put. The most sensitive models for identifying patients who need skilled care (#3 and #6) would be best in cases where identification of patients needing skilled care is most important, because virtually all of the skilled patients would have been identified.

Table 3.8

Accuracy of LOC Classifications Using an Empirical Approach,
Baltimore City PSRO Nursing Home Survey

PART I
Types of Models Used

Criteria	Variations of Minimal Criteria for Skilled Care[a]					
	(1)	(2)	(3)	(4)	(5)	(6)
Condition Unstable/Worsening	Yes	Yes	Yes	Yes	Yes	Yes
Number of Problems	5+	5+	3+	5+	5+	3+
Number of Nursing Procedures	2+	1+	1+	2+	1+	1+
Number of Rehabilitation Procedures	2+	2+	1+	2+	2+	1+
Number of Medications	NU	NU	NU	4+	4+	4+

PART II
Comparison of Predictions to Review Team's Implicit Judgments

	(1)	(2)	(3)	(4)	(5)	(6)
Percentage of Skilled LOC Correctly Predicted by Model	71	84	94	79	88	95
Percentage of Non-skilled LOC Correctly Predicted by Model	69	63	39	56	51	33
Overall Percentage of Correct Predictions by Model	69	65	46	59	56	41

[a] If any one of the criteria are met, then the patient is classified as skilled by the mathematical model.

NU = Not Used.

In these models, however, a large portion (61 or 67 percent) of patients not requiring skilled care would also be thus classified as skilled patients and would require more intensive review to separate them further into appropriate placement categories.

Although Criteria Set #1 has the highest overall predictive accuracy, 69 percent (the highest number of correct predictions divided by the total number of predictions made), it may not be the most useful because it does not maximize sensitivity for identifying skilled patients. It is, however, the best model of the six for labeling non-skilled patients as non-skilled. The fact that the overall predictive score more closely approximates the ability of the criteria set to predict non-skilled rather than skilled patients results largely from the composition of the Baltimore nursing home population, which has many fewer skilled than non-skilled patients (only 20 percent of the patients were felt to require skilled care). This detracts from the usefulness of the overall predictive scores and points up the need to interpret the more specific individual scores in light of the use intended.

The strong influence of the number of nursing procedures in determining need for skilled LOC may be seen if one observes the change in correct identification of skilled care patients when the number of nursing procedures required to classify a patient as skilled is reduced (cf. Set#1 versus Set#2). This single change increased the proportion of correctly predicted skilled LOC patients from 71 to 84 percent, but at the cost of falsely labeling some additional patients as skilled when they were not.

Logistic Regression Approach. The second method used to determine LOC needs is based on a statistical procedure, logistic regression, which was used to calculate the probability of a skilled LOC judgment because such a judgment is an all-or-none decision; in such cases logistic regression, as opposed to ordinary least squares regression, is the most appropriate model. The method involves the assumption that a patient's need for skilled care can be derived mathematically through the logistic equation from a number of predictor variables. These variables include such quantities as the number of functional limitations a patient has, the number of skilled nursing services being performed, the number of rehabilitative therapies required, and the number of medications prescribed. Such a logistic regression equation for determining the probability of a single patient being classified as needing skilled care is then given by the following:

$$\text{Prob}_{sk}\,(x_1, \ldots, X_k) = \frac{1}{1 + e^{-(c_0 + c_1 x_1\,, + \ldots + c_k x_k)}}\,. \tag{1}$$

In the equation, x_1, x_2, ..., x_k are the predictor variables of interest; the constants c_0, c_1, ..., c_k are the coefficients to be determined statistically based on a sample of patients classified as either skilled or less than skilled, and e is the constant 2.718282. For a single patient, Eq. (1) depends upon the value of the predictor variable x_1, ..., x_k for that patient.

In developing an equation in the form of Eq. (1), various combinations of predictor variables from the Baltimore PSRO were used. We present here the simplest model, which depends on only four clinically relevant variables, and describe how it was developed. The four variables used in this first model are the following:

x_1 = the total number of functional limitations or problems experienced by the patient (with a range from 0 to 15);
x_2 = the number of skilled nursing procedures used (range 0 to 14);
x_3 = the number of rehabilitative therapy procedures used (range 0 to 5);
x_4 = the number of medications prescribed (range 0 to 18).

All patient records that had no missing data on these four variables were included in the analysis. Of the 3579 records, 3144 satisfied this criterion and were included. A random sample of half of these records (1572) was used to develop the logistic equation. These 1572 patients included 213 (15.5 percent) who had been assigned by the review team to a skilled LOC and the remainder (84.5 percent) were assigned to a less-than-skilled LOC. The predictor variable data from these 1572 patients were then used to derive a logistic regression equation of the form of Eq. (1), using the STATLIB logistic regression program at The Rand Corporation. This program gives the maximum likelihood estimations of the coefficients $c_0, c_1, \ldots, c_4$, for the constant term and the four variables $x_1, \ldots, x_4$, respectively. The resulting coefficients, along with their corresponding t-statistics, are given in Table 3.9.

All the coefficients in Table 3.9, except that for the number of medications (x_4), are statistically significant at the .01 level.

To illustrate how the resulting prediction equation works, consider a patient with five functional limitations who requires two skilled nursing services, two rehabilitative therapies, and four medications. For such a patient:

$$\begin{aligned} c_0 + c_1x_1 + c_2x_2 + c_3x_3 + c_4x_4 \\ &= -3.357 + (.175)5 + (1.391)2 + (.527)2 + (.109)4 \\ &= 1.79. \end{aligned}$$

Therefore, the estimated probability that this patient will be classified as needing skilled care is, by Eq. (1),

$$\text{Prob}_{\text{sk}}\ (5, 2, 2, 4) = \frac{1}{1 + 3^{-1.79}} = .857. \tag{2}$$

Such patient has an 85.7 percent chance of being classified as needing skilled care by an expert implicit reviewer, based on the predictive logistic equation, developed on the 1572 patients.

Just for comparison, consider a patient with the following variables: $x_1 = 1$, $x_2 = 1$, $x_3 = 0$, and $x_4 = 1$. For the coefficients of Table 3.9, Eq. (1) would yield a probability of skilled care being required:

$$\text{Prob}_{\text{sk}}\ (1, 1, 0, 1) = \frac{1}{1 + e^{1.68}} = .157. \tag{3}$$

Such a patient would have a low probability of being classified as needing skilled care.

Once Eq. (1) had been developed it was used to predict the need for skilled care for each of the remaining 1572 patients. To determine whether to then classify an individual patient as requiring either skilled or less than skilled care, one must choose a threshold probability (p) between 0 and 1. If the estimated probability is above the threshold, the patient is classified as needing skilled care; if below, as needing less than skilled. For example, if the threshold chosen were $p = .2$, the patient of Eq. (2) would be classified as requiring skilled care, while that of Eq. (3) as not. If $p = .1$ was chosen, then both would be classified as requiring skilled care. Obviously, the choice of the p threshold will determine the percentage of those

Table 3.9

LOGISTIC REGRESSION RESULTS FOR THE SIMPLEST LOC PREDICTOR MODEL

Variable	Coefficient	T-value
Constant	-3.357	-15.23
Total Number of Functional Patient Problems (x_1)	.175	5.12
Total Number of Skilled Nursing Procedures (x_2)	1.391	11.91
Total Number of Rehabilitative Procedures (x_3)	.527	4.91
Total Number of Medications (x_4)	.109	1.91

classified as needing skilled care. The lower the selected p, the higher will be the percentage of patients classified as requiring skilled care.

To validate the performance of the model described in Eq. (1), the estimated probabilities based on the model were calculated for each of the remaining 1572 patients who were not used in developing the model and who had complete information on the four variables that were used to develop the equation—a split-sample validation technique. The results of these predictions, compared with the actual expert classifications, are given in Table 3.10 for various p thresholds.

As seen in Table 3.10, the lower the p value threshold, the higher the percentage of skilled care patients correctly classified. However, the price one pays for such an increase in correctly identifying skilled care patients is a decrease in correctly classifying patients requiring less-than-skilled care, just as was observed in the case of the previous empirical model. Again the choice of threshold depends upon which type of error is more acceptable. An acceptable threshold choice for identifying most skilled patients with a reasonable false positive rate would be $p = .10$, where 86 percent of skilled patients are correctly identified and 63 percent of the nonskilled patients are correctly identified. In this situation, 37 percent of the nonskilled patients would be falsely grouped with the skilled patients.

In addition to the results shown in Table 3.10, three other prediction equations were developed. These were based on the use of the original four predictor variables. Table 3.11 both describes the equation and gives the prediction results for the three other equations. In that table, the columns labeled "equation B" give the prediction results for the equation that used the same four variables as the equation described in Table 3.10, together with a variable describing change in patient status. Columns labeled "equation C" give the prediction results for an equation that uses the same four variables except that the variable on the number of skilled nursing services was replaced by 14 specific nursing service variables. Columns labeled "equation D" give the prediction results for an equation using the same four variables except that the variable on the number of functional patient problems was replaced by 15 specific problem variables.

Table 3.10

PREDICTION OF NEED FOR SKILLED CARE USING LOGISTIC REGRESSION COMPARED WITH IMPLICIT LOC DECISIONS MADE BY REVIEW TEAM

Level of Probability for Cut-Off $P \geq$	Percentage of Skilled Care Patients Correctly Classified by the Model	Percentage of Patients Not Needing Skilled Care Correctly Classified	Overall Percentage of Correct Classification
.05	96	19	30
.06	94	32	40
.07	91	44	51
.08	88	51	56
.09	86	59	62
.10	86	63	66
.15	63	78	76
.20	56	84	80
.25	51	88	83
.30	42	90	83
.50	23	97	87
.70	10	99	87

As can be seen from comparing the results of Tables 3.10 and 3.11, little if anything is gained in predictive accuracy when these more elaborate equations are used. This somewhat surprising result can be explained in part by sample loss; data were missing from the disaggregated sets, causing smaller sample sizes and thereby reducing any achieved gain in predictive accuracy. Because the results from the more elaborate equations presented in Table 3.11 were similar to those obtained from the simpler equation presented in Table 3.10, they will not be described in any more detail here.

Data presented here provide evidence that LOC requirements, as determined by expert implicit judgment, can be predicted to a certain degree from objective, chart-derived patient information.

Whether one uses clinical algorithms based on experience and judgment or statistically derived methods such as logistic regression, the question of which model, which criteria set of the empirical model, and which threshold of the logistic regression model yields the most useful prediction and should be used must be resolved. This decision certainly depends in part on the accuracy, precision, understandability, and information requirements of the model. Although the logistic

Table 3.11

Logistic Regression Predictions Using More Complex Regression Equations

Level of Probability for Cut-Off p ≥	Percentage of Skilled Care Correctly Classified			Percentage of Less Than Skilled Care Correctly Classified			Overall Percentage of Correct Predictions		
	Equation			Equation			Equation		
	B	C	D	B	C	D	B	C	D
.05	92	97	81	43	14	58	49	25	61
.10	71	72	69	73	69	80	73	69	78
.15	65	52	55	82	83	88	80	79	84
.20	55	44	46	88	88	92	84	82	87
.25	42	38	38	92	92	94	86	85	88
.30	36	36	35	94	94	96	88	86	89
.50	19	21	16	98	97	99	88	87	90
.70	6	14	7	99	99	100	88	87	90

Equation B includes the four variables used in Table 3.9 and adds a fifth variable describing change in patient status (deteriorating, fluctuating, stable, or improving).

Equation C includes the variables in Table 3.9 except that the variable on RN services has been replaced by 14 specific procedure variables.

Equation D includes the variables in Equation B except that the variable on patient functional problems has been replaced by 15 specific problem variables.

model seems to be somewhat more precise, the empirical model is simpler and probably more readily understandable to a clinician. Information requirements are similar for the models. Although the logistic model might eventually become more accurate than the empirical if enough information were to be included within it, we have not demonstrated in this study any impressive differences in predictive accuracy between the logistic and empirical models presented here. (One limitation of our study is our reliance on the expert implicit LOC judgments as the "gold standard." The reliability of the judgments represents the upper bound for the development of more accurate predictions.)

The choice between models and thresholds depends on how the LOC determination is to be used. If one fears the consequences of classifying a patient at too low a level, one might wish to use a model very sensitive for prediction of skilled patients, for example, the empirical criteria Sets #3 or #6 from Table 3.8 or the logistic threshold of .05 or .06 from Table 3.10. If one were less concerned with under-classifying and more concerned with avoiding over-placement (e.g., to save money), one would opt for a less sensitive criteria set or a higher logistic threshold value.

Perhaps the most useful purpose for these models is as a first screen to reduce the number of patients needing more intensive review. In such circumstances one would choose a threshold with a high sensitivity for detecting the group of primary concern. For example, if one wished to pick out those patients needing skilled services from a mixed population, one would use a low logistic regression threshold; however, if one wanted to identify those needing less than skilled care, a high threshold value would be preferable.

We conclude, therefore, that despite the fairly high predictive results of the models explored in this study, none of the models studied here is sufficiently precise to be used as a definitive identifier of true LOC need. Rather they should be regarded, at least for the present, as initial screening tests, potentially able to save considerable time and expense in the review process by identifying smaller groups of patients in need of more intensive review from the bulk of patients not needing such review.

Concurrent Quality Assessment Criteria Development

The ten demonstration projects approached concurrent quality assurance in different ways. Four projects (Minneapolis, Multnomah, South Carolina, and Vermont) did not develop specific quality criteria; Multnomah's system was delegated and CQA was not applicable. Minneapolis developed a distinctive approach to quality assurance that involved promotion of multidisciplinary patient care planning, and Vermont and South Carolina conducted quality assurance activities but did so by applying professional judgment to their observations of the patient, reading of the medical record, or review of the assessment form.

Of those that developed explicit criteria for quality assessment, four sites (Bronx, Charles River, Colorado, and Utah) developed medically oriented criteria based on problems or medically related conditions, and two (Baltimore and San Joaquin) developed worksheets or checklists for both facility and patient quality assessment. These two approaches will be discussed separately.

Development of Medically Oriented Criteria

In the Bronx, the standards subcommittee (composed of 15 members) developed 16 diagnostically-related criteria sets. These criteria were divided into two sections: "Justification for Admission," which was used during AR, and "Criteria for Management and Therapy," which was applied during CSR by the PSRO's review coordinators. If patient care failed to meet the criteria, the review coordinator gave informal feedback to the responsible nurse for corrective action. The Bronx assessment sheet was designed to collect the results of the criteria application allowing the PSRO to profile "Compliance with LTC Diagnostically-Related Criteria" by facility. When this system is operating fully, it will allow the PSRO to give feedback to the LTC medical directors on facility compliance rates and variations.

The staff of Charles River PSRO developed CQA criteria that were approved by the PSRO Medical Review Committee, the LTC Committee (a multidisciplinary group including nursing home representation) and the Board. Fifteen general criteria (e.g., general nursing, bowel and bladder training, therapeutic services, dietary, etc.) and 14 diagnostically-related criteria sets were developed. The criteria were distributed to nursing home personnel and were used by the nursing home staff in preparing for the PSRO review coordinator CSR visit at which time the criteria were applied. Discrepancies in criteria application were resolved through informal feedback and educational activities. Charles River PSRO reported that the criteria were useful to the LTC staff when dealing with physicians because the physicians either abided by the criteria or wrote an explanation of deviations in the patient's progress notes. Acceptance of the criteria was very good; facility and physicians used them even when their application was not required, as in private patient care.

Colorado PSRO used a different approach, focusing on problems rather than diagnoses. A multidisciplinary criteria committee developed 24 criteria sets that were approved by the PSRO LTC Criteria Committee. (see Table 3.12). Each problem-oriented outcome criteria set included: (1) topic, (2) validation of problem, (3) length of time to first outcome, (4) exceptions, and (5) associated services to be provided in the event of deficiencies. Colorado was the only PSRO to spend a great deal of effort developing criteria for psychosocial problems—confusion, depression, anxiety. Of the 24 criteria sets, six were of that nature. The criteria were applied at each review by the PSRO geriatric nurse practitioner (GNP) for physical problems and the social work reviewer for psychosocial problems. If outcomes were not met, suggestions were made by the GNP to the Director of Nursing, and by the social worker to the social work designee.

During its six month application of quality of care criteria, the Colorado PSRO produced an interesting data display of problems identified by the application of the criteria and never included by the provider in the patient care plan. Information displayed on Table 3.13 was drawn from the logs kept by the review teams in Site I using the criteria sets. There are 20 facilities included in the display and the table is based on 134 patients who were reviewed for six months. Column 1 of the table contains the names of the concurrent criteria sets used to identify residents' problems. Column 2 shows the total number of patients for whom each problem was identified. The third column shows the number and percentage of times that the identified problem was never included in the care plan during the six month review period. This table shows that, when quality of care criteria are applied through a vigorous "hands-on" approach, problems can be identified by the PSRO that were not acted upon or planned for by the patients' caretakers.

The Utah PSRO LTC committee, composed of four physicians, developed 84 medically oriented guidelines, which went through a number of revisions because their application suggested that the standards may have been too stringent. The Utah PSRO preferred the term "guidelines" because its connotation is more suggestive and less coercive than the term "criteria."

The Utah guidelines fall into 29 general categories. Over half were related to the use of drugs—e.g., potassium-sparing binding diuretics, phenothiazines, or valium. In order to develop these drug use criteria the LTC committee employed a pharmacist as consultant. Another interesting feature was an emphasis on criteria for categories of documentation; these included documentation of allergies, attending physician progress notes, other physician progress notes, and admission nursing notes. These intervention guidelines were applied in a cyclical fashion resulting in review approximately every three months. Compliance profiles were developed and used for feedback. The guidelines also formed the basis for the documentation of improvement resulting from review, which was the major goal of the demonstra-

Table 3.12

DISCREPANCIES BETWEEN PROBLEMS NOTED BY APPLICATION OF COLORADO CRITERIA AND INCLUSION OF THESE PROBLEMS IN PATIENT'S CARE PLAN

Criteria Set	Number of Patients with Identified Problem	Number of Patients-Problem not included on Care Plan for 6 months review #	%
Depression	46	37	80
Confusion	37	22	59
Incontinence-urine	28	19	68
Vision Impairment	27	17	63
Immobility-orthopedic	22	12	55
Anxiety	20	11	55
Mechanical speech disorder	18	17	99
Secondary skin condition	18	10	56
Primary skin condition	15	9	60
Incontinence-bowels	15	11	73
Pain	13	10	77
Hearing impairment	11	9	82
Constipation	9	4	44
Malnutrition	8	3	38
Neurological speech disorder	8	3	38
Immobility-neurological	7	2	29
Shortness of breath	6	4	67
Dependent edema	4	3	75
Dehydration	3	2	67
Urinary tract infection	1	0	0
Hypertension	1	0	0

SOURCE: Colorado Final Demonstration Report.

tion. (Utah's demonstration experiment using the intervention guidelines is discussed in Chapter 5.)

Topics of Medically Oriented Quality Assurance Criteria

By and large, the four PSROs that developed medically oriented quality assessment criteria differed from each other in their selection of target problems and focus. As mentioned before, Charles River PSRO developed several general criteria as well as diagnostically-related criteria, Colorado PSRO expended a large amount of resources in developing psychosocial criteria, and Utah PSRO developed several drug-related criteria as well as some documentation criteria. Table 3.14 compares the topics/problems selected by the four PSROs.

It might have been expected that PSROs would identify similar LTC problems and, therefore, develop criteria for similar problems. This was not the case, however, during the demonstration period. The only topic addressed by all four of the PSROs that used the problem/medically oriented approach to criteria development

Table 3.13

Comparison of Concurrent Quality Assurance Topics/Problems Across Sites

Type of Criterion	Bronx	Charles River	Colorado	Utah
Diagnostic	Hypertension Anemia Stroke Congestive heart failure Diabetes Arthritis Fracture of skull, spine, trunk, upper and lower limbs Ischemic heart disease Paralysis Agitans Bronchitis Senile or presenile disease Senility without psychosis Cirrhosis of the liver Neoplasm Peripheral vascular disease Renal disease	Hypertension Anemia Stroke, with paralysis Congestive heart failure Diabetes Arthritis: Degenerative Osteo Rheumatoid Gout Fracture of hip and/or femural neck Angina pectoris and myocardial infarction Parkinson's disease Chronic Brain Syndrome	Hypertension Urinary tract infection	Hypertension Anemia Paralysis and paresis Congestive heart failure Diabetes: Diet and insulin Diet/antidiabetics Increased temperature with cough and chest pain Urinary tract infection Diarrhea
Problem-focused		Elimination problems Bowel and bladder training Catheters Range of motion exercises Restorative nursing	Dependent edema Dehydration Hearing problem Visual problems Incontinence: Bowel Bladder Primary skin condition Secondary skin condition Constipation Orthopedic immobility Neurologic immobility Malnutrition Pain Shortness of breath Mechanical speech disorder Neurological speech disorder	Indwelling catheter
Laboratory		Periodic lab tests Follow-up on abnormal lab tests	Hematocrit less than 35	
Drugs		Proper drug usage		Proper drug usage Anticoagulants Diuretic therapy Potassium sparing/binding diuretics Digitalis Ergot Alkaloid Instant Metamucil Percodan Phenothiazines Phenylbutazone Valium
Psychosocial		Referral to social services Recreational activities Proper use of restraints	Depression Aggression Anxiety Confusion Dependency Social isolation	Depression
Documentation			Vital signs Weights Physician treatments General nursing care	Allergies Attending physician's notes Other physician's notes Nursing admission notes

Table 3.14

COMPARISON OF HYPERTENSION CONCURRENT QUALITY ASSURANCE CRITERIA

Bronx	Charles River	Utah	Colorado
A. Justification for Admission 1. History of diastolic pressure over 95 mm 2. Complication of hypertensive disease, for example, stroke, coronary occlusion, enlarged heart, renal insufficiency B. Criteria for Management and Therapy 1. Monitor blood pressure at least once a month 2. Roentgenogram of chest at least annually 3. Electrocardiograph at least annually 4. Blood urea nitrogen and/or creatinine and urinalysis at least semi-annually 5. Funduscopic examination on admission 6. Sodium restricted diet 7. Prescribed antihypertensive agents if indicated 8. Skilled observation for tolerance and response to drug and diet therapy	I. Ongoing Management A. Blood pressure 1. B.I.D. until stable 2. Daily for seven days 3. Monthly B. Medication Review for necessity, dose, and frequency 1. Antihypertensives 2. Sedatives 3. Diuretics 4. Potassium supplement C. Observe for adverse medication side effects such as: 1. Drowsiness 2. Excessive fluid loss through diuretics 3. Hypotension D. Laboratory tests--yearly 1. Hemoglobin and/or hematocrit 2. Urinalysis 3. Stool for occult blood if hemoglobin below 10 4. Electrolytes (potassium and sodium) if patient on diuretic or diuretic-type antihypertensive medication 5. Blood sugar 6. BUN E. Diet--Reduce/restrict salt/sodium unless otherwise indicated by MD F. Weight--monthly II. Complications--CVA	A. Patient on antihypertensive medication 1. If stable, blood pressure twice monthly[a] 2. If unstable, daily blood pressure 3. Sodium-restricted diet 4. EKG every year 5. Chest x-ray every year 6. Sympathomimetics should not be used B. Patient with diastolic blood pressure over 105--antihypertensive medication prescribed	I. Validation of Problem Identification A. Documentation and/or diagnosis of hypertension B. Findings of increased blood pressure; mild = 160/100; moderate = 180/105; severe = 200/110 or more II. Outcomes A. Length of time to first expected outcome--2-3 weeks B. First expected outcome(s) 1. Dietary plan established if obese 2. Blood pressure stable (e.g., consistent BP reading for most recent 10-14 days) 3. Free of drug side effects (e.g., rashes, syncope, weakness, diarrhea, muscle cramps, etc.) 4. No documented adverse behavior (e.g., anxiety) 5. BUN, K+, Na+ within normal limits C. Exceptions--chronic renal insufficiency D. Associated Services 1. Monitor BP at least daily 2. Na+ restriction 3. Weigh minimum of weekly 4. Antihypertensive and/or diuretic medication[b] 5. BUN, K+, Na+ or documentation of same with 2 mo.

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[a] A stable patient is defined as one whose blood pressure, over a period of 60 days with not less than eight readings, fell within a normal range-i.e., a high of 195 and a low with a systolic under 90.

[b] If 2 or more reviews necessary, reevaluation of treatment plan documented by physician--100%.

was hypertension. Criteria for anemia, cerebral vascular disease, congestive heart failure, and diabetes were developed by three sites. The rest were developed by only one or two sites.

Not only did the topics vary among the demonstration sites, but the criteria elements were also quite different among the four PSROs. The criteria sets for hypertension, the only disease studied by all four sites, are compared in Table 3.14 to illustrate the differing approaches to the development of criteria for the same topic. Criteria elements for blood pressure monitoring, sodium restriction, and anti-hypertensive medications were included in all four criteria sets. Criteria for observation and monitoring of drugs and requirements for a BUN and/or creatinine were included in three criteria sets. Chest x-rays, EKGs, urinalysis, electrolytes, and weight were required in two criteria sets. A funduscopic examination, blood sugar, hemoglobin and/or hematocrit, and stool for occult blood if hemoglobin was below 10 were required by one set. Beyond these specific content comparisons are other, more basic differences. Bronx and Charles River PSROs used criteria very similar to the AMA diagnosis-based criteria for acute care (American Medical Association, 1975). Utah's criteria are perhaps somewhat less stringent as they were created for a stabilized LTC situation. Finally, Colorado criteria sets differ greatly because they have incorporated the notion of expected outcomes and associated services.

Worksheet/Checklist Criteria

Baltimore PSRO addressed the issue of concurrent quality assessment by a Facility Quality Assessment Worksheet and a Patient Quality Assessment Worksheet designed by the PSRO staff and the multidisciplinary LTC Council. These worksheets indicated critical quality assessment areas and were completed by the PSRO nurse coordinator at the time of CSR. Problem areas were discussed with the LTC medical director, administrator, and/or nursing director as appropriate. All problems were referred to the PSRO manager of LTC for analysis and referral to peer review if appropriate. The facility worksheet consisted of seven questions, which are answered affirmatively or with a question mark, followed by a space for comments on each item.

1. Is there evidence that kindness and consideration exist in the nurse/patient relationship?
2. Is there evidence of adequate care being rendered?
3. Are the physical surroundings clean and in good order?
4. Are there resources available to assure good patient care, i.e., wheelchairs, mattresses, etc.?
5. Are there resources available that could help restore patient to his/her optimum level of functioning?
6. Is there evidence of safety precautions in use of wheelchairs, bed/chair transfers, etc.?
7. Is the medical director or an emergency physician available when attending physician is not?

The patient-specific Quality Assessment Worksheet consists of 14 questions that are similarly answered. Problems are handled in the same manner as for

Facility Assessment. The questions cover areas of physician orders and progress notes, nurses' notes, medications, treatments, social services, discharge planning, and patient status. Examples are:

- Current diagnosis documented?
- Verbal orders countersigned?
- Multidisciplinary plan of care present, current, complete, and specific?
- Medications administered as physician ordered?
- Stop orders written on potentially dangerous drugs?
- Nurses' notes descriptive and reflective of patient's condition and needs?
- Evidence of appropriate discharge planning activity?
- Evidence of pressure sores?
- Evidence of dehydration or malnutrition?
- Does the patient seem reasonably content and satisfied with care given?

San Joaquin developed its concurrent quality assurance instrument with technical assistance from Rhode Island Health Services Research, Inc. (SEARCH). The checklist was developed to provide a methodology to answer a research question: Does the introduction of a specific PSRO quality assessment program improve the quality of care in LTC facilities? The checklist was completed by the PSRO review coordinator during each CSR and quality of care deficiencies revealed by the checklist were discussed with appropriate facilities and personnel.

The checklist includes 43 questions in the following nine categories: (1) Admission/transfer information, (2) Physician's care plan and orders, (3) Physician follow-up, (4) Nursing care plans, (5) Nursing care, (6) Pharmaceutical, (7) Social services and therapies, (8) Patient's environment, and (9) Diet. Very extensive and explicit criteria were provided so that uniform ratings could be made for each item. The items were constructed so that they could be addressed in a record review and, for the most part, referred to structural components of care.

The San Joaquin checklist provides the information by which change in quality is measured for the experiment performed as part of the San Joaquin demonstration. The findings of that experiment are discussed in Chapter 5. (See App. D for a copy of the SJPSRO quality checklist and instructions for its use.)

In assessing the usefulness of the checklist, we should distinguish the importance of the task from the usefulness of the tool in accomplishing that task. The checklists developed by these two PSROs illustrate the range of purposes to which such forms can be put. The Baltimore list covers a spectrum of criteria from simple structural criteria relating to the presence of items of equipment in the nursing home, through process measures of the appropriateness of certain aspects of care and on to judgments about the outcomes of care expressed in terms of patient satisfaction and well-being. By contrast, the San Joaquin PSRO has developed a much more constrained list that focuses largely on structural questions such as whether a form is complete; the quality of the data used to complete the form is not addressed.

CONCLUSIONS ABOUT CONCURRENT QUALITY ASSESSMENT

Our conclusions about the utilization review process (organized according to kind of review) are contained in Chapter 9. Here we make only a few general observations about development of criteria for concurrent quality assurance and the concurrent quality assurance review process.

1. A number of demonstration projects had moved toward the development of explicit process criteria for quality of medical and nursing care. We recommend continued efforts to produce explicit quality of care criteria. The more explicit such criteria are, the more the data collection can be entrusted to a non-professional or lesser trained professional. Furthermore, explicit criteria across multidisciplinary issues such as physical therapy, diet, or social services would permit a nurse reviewer to make appropriate initial determinations in lieu of a full team of reviewers. Finally, an explicit criterion lends itself to replicable, reproducible judgments—an essential feature if funds are to be disapproved or sanctions taken on the basis of quality of care deficiencies. The challenge is to develop explicit criteria that address important matters; the danger lies in achieving explicitness by choosing less critical issues.
2. Only a few demonstrations had developed and applied quality of care criteria in the area of drug use. We consider this area to be not only important (because of its life-threatening and life-enhancing implications) but also amenable to the creation of explicit criteria. Pharmacy has a useful contribution to make here. An advantage of using quality of care criteria in the drug area is that application of such criteria provide a means of engaging the attending physician's attention and interest around a concrete area of care delivery in which educational interventions are likely to make an impact.
3. There was insufficient effort to develop criteria that were outcome based, although Colorado produced outcome based criteria sets for 24 problems and Baltimore's quality assessment checklist raised "outcome" questions —e.g., did the patient seem reasonably satisfied with his/her care? We would encourage development of outcome based criteria in the psychological and social sphere because little is known in these domains about how process relates to outcome.
4. The majority of the demonstrations used a bedside patient assessment in addition to a record review for the concurrent quality assurance activities. We believe such bedside assessments are important to (1) assure accuracy of information and (2) collect information in the psychological and social sphere. This latter information is rarely found in nursing home records and, in any event, staff perceptions would be far more useful if validated by the patient.
5. The registered nurse seems to have the most appropriate training to serve as reviewer in CQA activities because she is then in a position to offer immediate peer review to facility nursing staff. The Colorado experience with a geriatric nurse practitioner as a routine data collector suggested that the GNP is over-qualified for the task. At the opposite end of the spectrum, one could use individuals with less training than the RN as an adjunct to the nurse reviewer for specific purposes (e.g, broad screening on general quality parameters), but such personnel should not serve as the primary reviewer in a CQA system.

6. If utilization review becomes more focused in the future (and perhaps is confined to those patients who show potential for discharge), then the PSROs will be monitoring some patients solely for the purpose of CQA. In preparation for such an eventuality, it is all the more important that the PSROs develop explicit criteria, reliable data collection procedures, well-developed feedback, and corrective action plans.

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Chapter 4

THE DATA SYSTEM

This chapter addresses the question of how the PSRO demonstration projects undertook the task of creating a data base to describe the delivery system with which they were working and to assess their effectiveness in improving it. For the purpose of this chapter, we used the term "data system" to mean a method for collecting and displaying a set of descriptive statistics that broadly describe several aspects of long-term care delivery. Such data are often displayed as a set of profiles of performance by facility, provider, or patient type. In this definition we do not address the more limited look at a single medical problem or diagnosis that would be more typical of an MCE study and is described in Chapter 6. Nor are we describing the development of review forms; a comparison of such forms was performed in the preceding chapter. We are also excluding specific studies undertaken to examine a given problem in greater depth (for example, the Vermont studies of dischargeability) or data collection efforts that were mounted as part of an experimental evaluation (as was the case in Minneapolis). Finally, we are excluding one-time, cross-sectional studies such as those done in the chronic disease hospitals and the nursing homes in the Baltimore PSRO.

It is important to appreciate that many of the demonstration projects relied on voluntary participation by the nursing homes. Few demonstration projects had an opportunity to look at the full spectrum of long-term care in their regions. Nonetheless, to the extent that these demonstration projects can be viewed as prototypes, it is important to examine the data systems that they adopted.

Before a data system is developed, a set of explicit objectives that can be addressed by the systematic collection of information should be specified. To plan such a system, an organization must have a clear picture of what information it uses and must be able to articulate precisely the questions the data system is intended to answer.

The heritage of the PSRO is perhaps nowhere as clear as in its approach to data. The physician's approach to the medical record—as a document for the care of an individual rather than for aggregating this information with similar data about other patients—is reflected in the manner in which data were collected in the demonstrations. Rarely was there evidence that, before adoption of a data system, substantial thought had been given to what types of information would be most useful for the identification of problems in the use or quality of LTC or for describing changes in the delivery system.

Although some PSROs developed very extensive and innovative systems for collecting various kinds of information, only a few (Vermont and Minneapolis) appeared to address the question of an overall data system. Several PSROs had previous bad experiences with computers and deliberately chose a manual system because it was cheaper, more reliable, or more appropriate to the early stage of their development. Most realized that this choice would severely limit their capacity for analysis.

A few PSROs were able to create profiles and other forms of aggregated analyses in the absence of an automated data system. Where the demonstration included only a limited number of nursing homes it was possible to use hand tabulations, although such a decision severely limited the number of manipulations that could be done with the data. Colorado's decision to avoid the computer was based in large measure on the unhappy experiences it had encountered during its EMCRO project. They managed, nonetheless, to provide a number of profiles and data displays. The reliance on hand tabulation, however, severely constrained the types of analyses possible. It was not possible to link different parts of the review system, nor to look more specifically at how subgroups of patients receiving certain kinds of therapy or placed appropriately (or inappropriately) fared compared with other groups. A review of the Colorado forms suggested that they had been designed for ease of data entry at the time of review, but without a careful plan for later data retrieval and analysis. The outcome-based CQA form proved virtually impossible to keypunch without totally recoding the information contained in it.

COMPUTERIZED VERSUS MANUAL

The two demonstration projects that undertook statewide review represented different ends of the spectrum with regard to data systems. South Carolina elected to use a very simple automated system containing only a few data elements. A Uniform Data Abstract form was completed by the reviewers at admission to and discharge from the LTC facility. The data were used in preparing profiles of facilities. The primary modes of display were simple tabulations by facility or by provider.

During the course of the project, however, several problems with that data system were identified. Some review coordinators felt that more data about the patients' medical and functional state needed to be included if the data were to be useful in providing an overview of the patients, their problems, and changes over time. At the same time, much of the data already on the form were not being used in the construction of profiles. Some of this difficulty may have related to the lack of consistent completion of some forms by the nurse-coordinators. Carelessness in using the correct identifier numbers, for example, severely limited the ability to compile information.

At the other end of the spectrum was the Vermont experience. There the PSRO had, as a primary objective, the development of an extensive computerized data system. Virtually all information from the IPR and CSR forms was entered into a computerized data base. The Vermont approach was to computerize all information, even before they had determined how they might make use of such data. By the close of the demonstration period the PSRO was beginning to look at its data and to explore ways in which useful profiles might be obtained. Problems similar to those experienced in South Carolina were found. In some instances the reviewers did not complete the forms carefully.

Nonetheless, even the early explorations of this data set indicate some potentially interesting uses. Table 4.1 is an example of one such opportunity. A simple cross-tabulation of the number of problems identified for each patient by the number of therapies given indicates several areas of potential discrepancy. A new variable could be created reflecting the degree of consonance between therapies and problems. The potential outlier patients can be identified for further in-depth

Table 4.1

Congruence of Number of Problems and Number of Therapies for a Sample of SNF Patients, Vermont PSRO

	Number of Problems				
Number of Therapies	0	1–3	4–7	8 or More	Total
None	4	11	35	2	52
1	12	21	43	3	79
2	9	13	26	2	50
3 or more	29	45	19	2	95
Total	54	90	123	9	276

⬚ Questionable admissions

░ Possible overtreatment

▨ Possible undertreatment

SOURCE: Adapted from table provided by James Gordon, VPSRO

examination. One might, for example, now ask new questions about those 50 patients receiving therapies but having no problems or the 37 patients with four or more problems and no therapies. This kind of an analysis is an example of what can be done with a computerized data base.

NEED FOR NURSING HOME CARE

Several PSROs elected to use the review data (particularly PAR) as a means of documenting the need for noninstitutional alternatives to LTC facilities. As noted in Chapter 3, Colorado used a point system to arrive at a level of need score. The point system was weighted to make it consistent with federal Medicare and Medicaid guidelines. Approximately 5 percent of the patients reviewed were found to need an LOC greater than that provided by skilled nursing facilities; these were patients who required active rehabilitation on the assumption that an investment in this area would restore them to a level of function where they could be more independent. Another 5 percent of the patients were deemed to need care different from that provided in intermediate care facilities. The bulk of these patients were felt to require only residential care. While the majority of the patients deemed to need rehabilitation did receive such services, only a quarter of those deemed to need only residential care actually received that level of care.

An even more extensive system of preadmission review was used by the Minneapolis PSRO. When these data were reviewed by outside clinical experts from the Hebrew Rehabilitation Center for Aged (HRCA), 13 percent were deemed appropriate for community care. The HRCA consulting team used the technique of cluster analysis to group the patients into homogeneous clusters and to assign to each of those clusters a package of services that would be most appropriate. Using a sample of 247 patients who were capable of responding to the PAR questionnaire, the HRCA team formed ten clusters, three of which related to patients who could be cared for in the community.

In Vermont, the interest in community-based alternative resources focused on patients uncovered during CSRs who were deemed, on the basis of implicit reviewer judgments, to be capable of functioning in the community. Approximately 10 percent of the patients in intermediate care facilities were so labeled. Once again, cluster analyses by the HRCA team identified a constellation of homogeneous groups for which service packages could be created.

It is important to appreciate that, while data of this nature were gathered in three different sites, the experience in each site was generally similar. Some proportion of patients either admitted to or already in nursing homes were felt to be more appropriately treated at the community level. In Vermont and Colorado the PSRO attempted to intervene to promote discharge or more appropriate placement. In each case, the effects were meager. The Colorado reviewers experienced repeated frustration at trying to coordinate the various agencies because cooperation was essential to effect community placement. Despite the investment of considerable time and energy, only a handful of patients were ever discharged to the community as a result of their efforts.

The Minneapolis LTC review system did not provide for direct PSRO intervention; LOC determinations by the PSRO thus had no effect on actual placement. Comparison between the preadmission placement decisions made by the review coordinators in the LTC facilities and the HRCA judges suggests that, in the absence of some direct intervention by the PSRO, a facility will tend to classify patients on the basis of what services it is able to provide.

The most ambitious attempt at community placement occurred in Vermont. There, the 10 percent of potentially dischargeable patients were randomly allocated to experimental and control groups. The experimental group was removed from the ordinary CSR process. Instead, the social workers on the review team worked with the nursing homes to stimulate plans for community discharge. The control group continued under the traditional CSR system. At the end of the study period, however, none of the patients in the experimental group had been discharged although a handful of the control patients had returned to the community. The lack of effect in the expected direction was attributed to (1) the inability of the PSRO social worker to mobilize sufficient resources within the nursing homes and (2) the removal of CSR pressure, producing an environment less conducive to discharge. (See Chapter 6 for more detail about Vermont dischargeability studies.)

QUALITY OF THE DATA

In the course of computerizing data sets from several of the projects, we discovered the problem of incomplete or inaccurate data recording. Part of the difficulty can be attributed to the use of forms that had not been carefully designed in advance in anticipation of computerization. Another part of the problem is that information that is not used tends to be recorded in a careless manner. Because much of the data collected by the PSROs was never analyzed, there was no feedback to the data collectors. In the absence of such feedback, the problems created by careless data collection were never determined or corrected.

ADAPTING MANUAL DATA SYSTEMS FOR COMPUTER ANALYSIS

Our experience in working with two large data sets to adapt them for computer analysis has elucidated a number of problems. Because the Colorado data offered an opportunity to look at changes in patient status over time, we undertook to reformat this information to render it suitable for keypunching and subsequent computer analysis. Similarly, because the Multnomah data set represented a large accumulation of observations of patients in nursing homes across time, we also undertook to transform the Data Abstract Sheet from the Multnomah project into a format that would be computer compatible. In both cases, we quickly discovered that the data abstract sheets had been designed for ease of recording at the time of review but the data on them were extremely difficult to enter into the computer.

The Multnomah form was a mixture of categorical and continuous data in both alpha and numeric characters. Several variables were constructed with categorical data and were therefore not amenable to scaling. For some variables, the information had not been entered systematically; e.g., space had been left for two digits where one had been used and vice versa. A few problems proved to be major stumbling blocks. Most important was the absence of any place on the form where the specific date of review could be recorded. Thus, when one patient had multiple reviews it was impossible to place all of these reviews in their proper time sequence.

As the data were being edited for keypunching, a number of additional problems surfaced. Substantial pieces of data were missing from the forms; in many instances, whole blocks of information were left blank. These omissions were a result of the instructions for completing the forms. After the admission review, the instructions were that information was to be entered only when a finding differed from the previous review. Such a procedure provided the individual reviewing the forms with a visual image of change (provided the forms were filed in correct temporal sequence), but this policy made automated analysis more difficult. The problem was compounded because the decision rule was not consistently followed. In some cases, unchanged items were completed, and it was therefore impossible for a keypuncher to make assumptions about the missing data. In other cases, the data seemed to have been transferred from an earlier sheet by means of carbon paper. Despite the PSRO's claims of a 100 percent accuracy check, there were no signs that careful editing had been performed.

One can conclude from the state of the information as recorded on the sheets that its primary value lay in providing information for the reviewer at the time the decision was made regarding nursing home care. The data proved to be much less useful when it was aggregated to look for changes over time. Such an experience underlines the difficulties encountered when one develops a data sheet for one purpose and then tries to use it for a second purpose. If management information systems are contemplated, they must be designed with appropriate forms and adequate monitoring checks to assure data of sufficient quality to produce meaningful profiles.

In the case of the Colorado data one entire form, indicating the extent to which outcomes had been achieved, had to be discarded from our computer analysis plan. The data form was developed to use the smallest amount of space possible, but it was almost impossible to disentangle retrospectively. For instance, the same information could be recorded in a variety of places depending upon the order in which the reviewer chose to enter it. The same data elements were scattered all across the form. Once again, such a form might be readily used by individuals making the review decisions in nursing homes, but could not be rendered usable for computer analysis unless it was totally recoded.

A different set of problems was encountered when the Colorado abstract form was edited for the computer. Here we discovered that different reviewers had used different rules for entering the data. For instance, if a patient had been hospitalized after a nursing home admission and then readmitted to the nursing home, the information was sometimes entered as a first review and sometimes as a later review, in which case the time of the initial admission to the nursing home was used as the time of the first review. Like the Multnomah forms, the Colorado form was a mixture of alpha and numeric characters, not always in ordinal sequence. Once again, the lesson clearly emerged that if automated analysis is to be employed, it must be built into the initial design of the form.

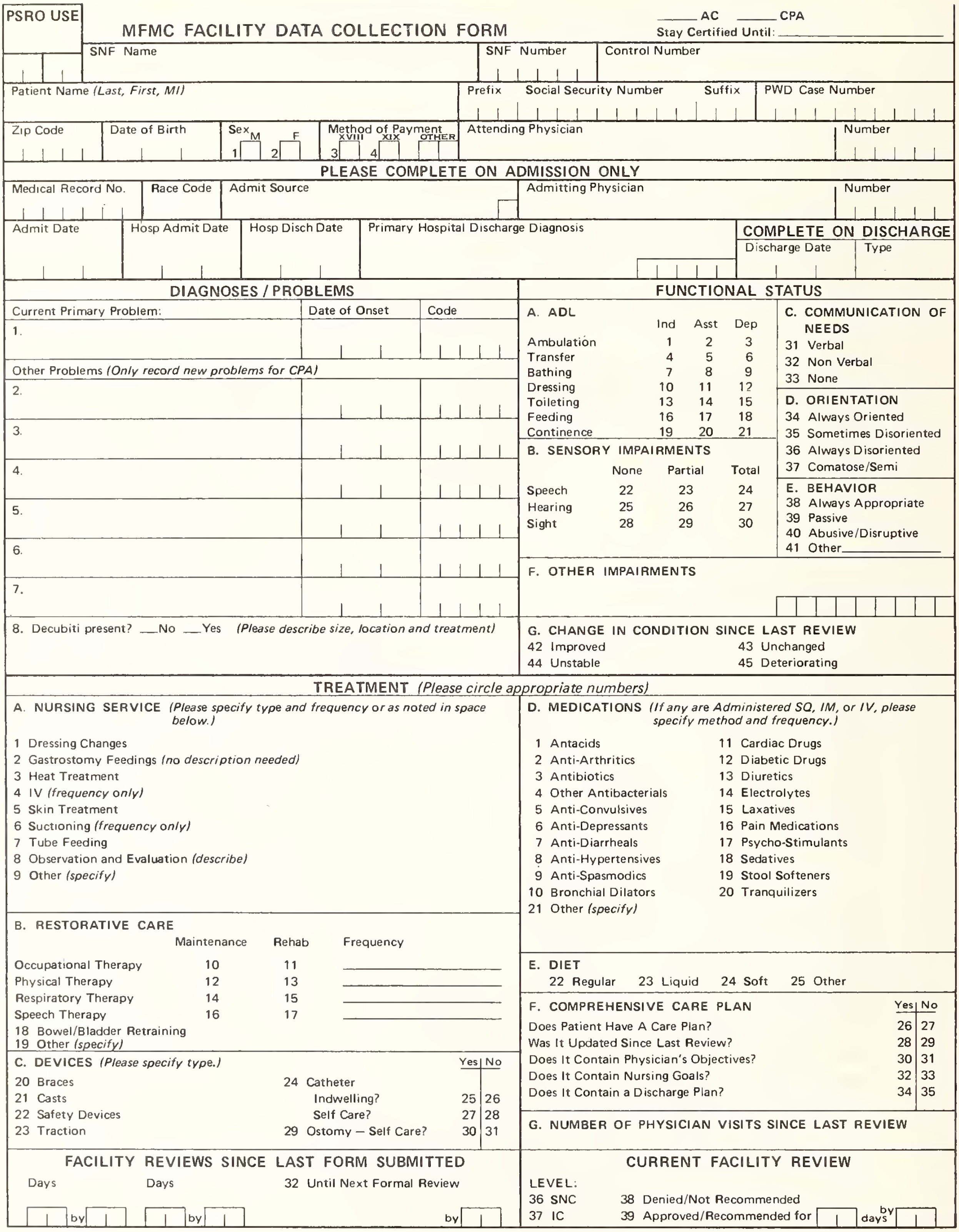
RAND ANALYSIS OF MULTNOMAH DATA

The Rand project team saw the Multnomah PSRO data as the largest available collection of information on PSRO reviews over a period of time. On this basis, we arranged with the PSRO to ship the review forms to Rand where they would be keypunched and entered for computer analysis. (See Fig. 4.1 for a copy of the Multnomah PSRO LTC Facility Data Collection Form.) Over 14,000 patient files were received covering a period from the fall of 1975 through December 1978. In view of the problems already noted in editing the forms, we elected to keypunch only two forms per case—those most likely to be associated with admission and discharge—and to use only alternate cases. This approach produced approximately 7000 sets of computerized records.

During the data editing process it became evident that a substantial number of the forms had very incomplete data entries. In light of this discovery, the analysis plans had to be severely modified. We had initially hoped to examine changes in patient status between admission and discharge and then to compare the degree of change among different cohorts of patients. The extent of missing information (partly the result of the recording practices noted above) precluded such an analysis. Instead we chose to look only at the admission data to see if a change in patient characteristics could be seen over time.

We reasoned that, if the admission review program were working effectively, the data could be used to reflect this effect. If active review was being implemented, we anticipated that patients admitted after the review process was in effect for some time should more clearly need nursing home care. This status should be reflected in more disabilities and more need of nursing services.

To look for such a change, we elected to contrast characteristics of patients admitted to skilled care in the early part of the data period with those admitted at the end. From the approximately 2500 admission records with fairly complete



PSRO USE

MFMC FACILITY DATA COLLECTION FORM

____ AC ____ CPA

Stay Certified Until: ____

SNF Name	SNF Number	Control Number

Patient Name *(Last, First, MI)*	Prefix	Social Security Number	Suffix	PWD Case Number

Zip Code	Date of Birth	Sex M 1 ☐ F 2 ☐	Method of Payment XVIII 3 ☐ XIX 4 ☐ OTHER ☐	Attending Physician	Number

PLEASE COMPLETE ON ADMISSION ONLY

Medical Record No.	Race Code	Admit Source ☐	Admitting Physician	Number

Admit Date	Hosp Admit Date	Hosp Disch Date	Primary Hospital Discharge Diagnosis	**COMPLETE ON DISCHARGE** Discharge Date / Type

DIAGNOSES / PROBLEMS

Current Primary Problem:	Date of Onset	Code
1.		
Other Problems *(Only record new problems for CPA)*		
2.		
3.		
4.		
5.		
6.		
7.		

8. Decubiti present? ___No ___Yes *(Please describe size, location and treatment)*

FUNCTIONAL STATUS

A. ADL

	Ind	Asst	Dep
Ambulation	1	2	3
Transfer	4	5	6
Bathing	7	8	9
Dressing	10	11	12
Toileting	13	14	15
Feeding	16	17	18
Continence	19	20	21

B. SENSORY IMPAIRMENTS

	None	Partial	Total
Speech	22	23	24
Hearing	25	26	27
Sight	28	29	30

C. COMMUNICATION OF NEEDS

31 Verbal
32 Non Verbal
33 None

D. ORIENTATION

34 Always Oriented
35 Sometimes Disoriented
36 Always Disoriented
37 Comatose/Semi

E. BEHAVIOR

38 Always Appropriate
39 Passive
40 Abusive/Disruptive
41 Other________

F. OTHER IMPAIRMENTS

G. CHANGE IN CONDITION SINCE LAST REVIEW

42 Improved	43 Unchanged
44 Unstable	45 Deteriorating

TREATMENT *(Please circle appropriate numbers)*

A. NURSING SERVICE *(Please specify type and frequency or as noted in space below.)*

1 Dressing Changes
2 Gastrostomy Feedings *(no description needed)*
3 Heat Treatment
4 IV *(frequency only)*
5 Skin Treatment
6 Suctioning *(frequency only)*
7 Tube Feeding
8 Observation and Evaluation *(describe)*
9 Other *(specify)*

B. RESTORATIVE CARE

	Maintenance	Rehab	Frequency
Occupational Therapy	10	11	________
Physical Therapy	12	13	________
Respiratory Therapy	14	15	________
Speech Therapy	16	17	________

18 Bowel/Bladder Retraining
19 Other *(specify)*

C. DEVICES *(Please specify type.)*

		Yes	No
20 Braces	24 Catheter		
21 Casts	Indwelling?	25	26
22 Safety Devices	Self Care?	27	28
23 Traction	29 Ostomy – Self Care?	30	31

D. MEDICATIONS *(If any are Administered SQ, IM, or IV, please specify method and frequency.)*

1 Antacids	11 Cardiac Drugs
2 Anti-Arthritics	12 Diabetic Drugs
3 Antibiotics	13 Diuretics
4 Other Antibacterials	14 Electrolytes
5 Anti-Convulsives	15 Laxatives
6 Anti-Depressants	16 Pain Medications
7 Anti-Diarrheals	17 Psycho-Stimulants
8 Anti-Hypertensives	18 Sedatives
9 Anti-Spasmodics	19 Stool Softeners
10 Bronchial Dilators	20 Tranquilizers
21 Other *(specify)*	

E. DIET

22 Regular 23 Liquid 24 Soft 25 Other

F. COMPREHENSIVE CARE PLAN

	Yes	No
Does Patient Have A Care Plan?	26	27
Was It Updated Since Last Review?	28	29
Does It Contain Physician's Objectives?	30	31
Does It Contain Nursing Goals?	32	33
Does It Contain a Discharge Plan?	34	35

G. NUMBER OF PHYSICIAN VISITS SINCE LAST REVIEW

FACILITY REVIEWS SINCE LAST FORM SUBMITTED

Days ☐ by ☐ Days ☐ by ☐ 32 Until Next Formal Review by ☐

CURRENT FACILITY REVIEW

LEVEL:
36 SNC 38 Denied/Not Recommended
37 IC 39 Approved/Recommended for ☐ days by ☐

Fig. 4.1—MFMC Facility Data Collection Form

data, we selected the first and the last thirds. These covered a period from 1975 through 1976 for the former and the latter months of 1977 and all of 1978 for the latter. Because there were few ICF patients in the first third and none in the last third, we decided to confine the comparison to skilled care patients only. When we eliminated ICF level patients and those for whom no level of care was clearly indicated on the form, there were 698 patients in the early group and 787 in the later groups.

Table 4.2 summarizes the differences in the two groups according to the variables available from the form. No dramatic differences are seen between the two groups despite the two-year hiatus. In general, the later group does not appear to be any more disabled than the early group, but there are some indications of a greater need for nursing attention. Only 5 percent of the 1977-78 cohort needed no nursing services, compared with 21 percent of the earlier group. However, dependency in terms of activities of daily living was less with the later cohort.

The comparison suggests that, to the extent the data are valid, no dramatic change took place in the patients admitted to skilled nursing homes in the area, although least appropriate patients (e.g., those not requiring any nursing care) may have been reduced. Charting with respect to care plans may also have improved.

Further interpretation of this comparison depends on one's expectations. Although the change is not dramatic, it does suggest movement in the desired direction, and perhaps represents the best one can hope to achieve in a delegated system with few incentives and little direct control.

CONCLUSIONS ABOUT THE DATA SYSTEM

Our general conclusions about the data system are contained in Chapter 9. Here we make only a few general observations:

1. Rational focusing of both utilization review and concurrent quality assurance activities requires an organized system of data retrieval (with a capacity to generate profiles by facility and provider).
2. In addition, each PSRO requires a management information system to track the extent to which its recommendations are followed and the effect of changes wrought. Such information is needed both to assist the PSRO in internal decisions regarding the planning of its corrective action and to demonstrate its effect on quality of care to any interested parties.
3. PSROs are appropriately cautious about adopting automated data systems given the large front-end costs of such systems. The final decision may depend on the number of patients served in the PSRO area—some demonstration sites produced simple profiles by manual tabulation. In developing data collection forms, however, any PSRO beginning LTC review should consider the possibility of future automation. Consultations prior to implementation of a form would avoid future problems such as those encountered when we tried to transfer Multnomah and Colorado data for computer analysis.
4. The quality of any data collected will determine its usefulness. Quality control involves checks for accuracy and completeness as well as attention to the reliability of the data collectors. The best way to produce motivation

Table 4.2

Comparison of Characteristics of Patients Admitted at Skilled Level of Care in 1975 and 1976 vs. Those Admitted in Late 1977 and 1978: Multnomah PSRO

Item	Percentage of Patients 1975-76 N = 698	 1977-78 N = 787
Nursing Services Needed		
Dressing Changes	15	19
Gastrostomy Feedings	1	1
Heat Treatment	5	5
IV	3	5
Skin Treatment	23	25
Suctioning	5	3
Tube Feeding	6	3
Observation and Evaluation	58	80
Other	30	45
Number of Nursing Services Needed		
0	21	5
1-3	74	86
4+	5	9
Restorative Services Needed		
Occupational Therapy	14	25
Physical Therapy	59	60
Respiratory Therapy	4	2
Speech Therapy	4	4
Bowel/Bladder Retraining	13	5
Other	5	1
Decubiti Present	22	16
Devices Used		
Braces	4	2
Casts	4	2
Safety Devices	17	23
Traction	-	1
Indwelling Catheter	40	28
- self-care	22	28
Ostomy	3	7
Dependent Status in Activities of Daily Living		
Ambulation	43	33
Transfer	33	28
Bathing	40	33
Dressing	40	35
Toileting	33	29
Feeding	20	16
Continence	32	26
Partial or Total Sensory Impairments		
Speech	29	22
Hearing	49	32
Sight	67	44
Communication of Needs		
Verbal	87	90
Non-verbal	10	6
Other	3	4
Orientation		
Always Oriented	41	50
Sometimes Disoriented	45	37
Always Disoriented	8	8
Comatose/semi	6	5
Behavior		
Always Appropriate	45	61
Passive	21	18
Abusive/Disruptive	7	4
Other	27	17
Number of Medications		
0	2	1
1-3	43	38
4-6	47	51
7-9	8	10
10+	-	-
Comprehensive Care Plan		
Care Plan Present	89	97
Plan Contains Physician's Objectives	76	93
Plan Contains Nursing Goals	93	92
Plan Contains a Discharge Plan	83	87
LOC Approved	99.7	98

for high quality data collection may be to use that data in profiles that are disseminated and closely reviewed.

5. A number of PSROs generated information about the extent to which a patient was in a nursing home because community resources were lacking. We recommend that PSROs consider building such information into their data bases. In utilization review (PAR, AR, and CSR), for example, PSROs must be able to produce figures indicating how many individuals were admitted to or retained in each level of care largely because of no alternative resources rather than because of strict medical necessity.

Chapter 5

IMPACT OF PSRO LTC REVIEW

A PSRO LTC review system will ultimately be judged on its ability to produce a positive impact on the quality or the costs of LTC care. Although the LTC demonstrations were not initially charged with evaluating their own effects (or even clear mandates as to what kind of effects were sought), ultimately a case cannot be made for a review system unless evidence of its effectiveness along these dimensions can be mustered. For that reason, we were attentive to any clues about the impact of the review system that might be derived from a study of the ten demonstrations. Similarly, we believe it important to discuss some of the problems that have created difficulties for the demonstrations in documenting their effectiveness.

The chapter begins with a general discussion of the difficulties experienced by the demonstrations that often prevented support of their assertions about their achievements. The remainder of the chapter deals with the several approaches developed by the demonstrations to assess their own effectiveness or at least to document the results of their interventions. These approaches fall into two categories: (1) experiments to demonstrate impact and (2) documentation of the impact of the concurrent review system with its feedback mechanisms on quality of care. In the experimental category, quasi-experiments in PAR were conducted by Multnomah, San Joaquin, and South Carolina; and quasi-experiments in concurrent quality assurance were conducted by Utah and San Joaquin. Most important, Minneapolis cast its entire demonstration effort in the form of a controlled quasi-experiment.

The section on impact on quality as documented by logs and intervention forms of the reviewers will be illustrated with examples from Charles River, South Carolina, Vermont, and Utah. In particular, we performed some hand-tabulations of the Utah reviewers' logs to obtain a further perspective on the effectiveness of concurrent quality assurance activities. Finally, we discuss the possibility of demonstrating positive impact on extremely poor care, using Baltimore's experience with an outlier facility as an example.

PROBLEMS IN DOCUMENTING IMPACT

The PSROs faced a number of very difficult problems extrinsic to the program itself that prevented their making definitive assertions about the outcomes of their review systems. In addition, they faced intrinsic problems relating to the quality of their data and the accuracy of their measurements.

The extrinsic problems might be summarized as follows:

- Lack of comparison groups.
- Lack of baseline data.
- Midway changes in PSRO guidelines or in the policies of external groups such as the states.

- In the case of voluntary programs, lack of authority to enforce recommendations.

The problems intrinsic to the PSROs included:

- Data reliability problems, exacerbated by personnel changes in demonstration staffs.
- Measurement problems, exacerbated by changes in certain criteria or standards during the course of the demonstration.
- Failure to develop a tracking system to monitor the impact of quality recommendations.
- Lack of clarity (or hypotheses) about what outcomes should be attributed to various PSRO programs.

Lack of Comparison Groups

To meet the conditions of an experiment, or even most quasi-experiments, control groups are required. Without adequate comparison groups that have not received the particular intervention, it is difficult to make claims of causality. The LTC demonstrations did not, for the most part, implement controlled studies of the effect of their review. For those programs with binding authority, the natural tendency was to implement review on a quick timetable, leaving no facilities without PSRO review for comparison purposes.

Voluntary programs had essentially two choices in developing comparison groups: (1) They could compare the homes with PSRO review with those without PSRO review using an outside source of information (such as state review data for both groups), or (2) they could collect information in control group facilities in a way that would not interact with the facility and compare those data with data that the PSRO collected in homes where it had implemented a full-scale review program. Utah had originally planned to use the first strategy; unfortunately, the state's review data were of such low quality that they could not be used for this purpose. San Joaquin and Minneapolis used the second strategy, collecting data in control facilities in which the particular PSRO intervention was not applied. This method has the potential problem that despite all efforts, the PSRO reviewer may, in fact, be influencing care within the control group.

Studies that use homes volunteering to participate as experimental homes have severe problems in identifying control groups, because of the possibility that homes that volunteer may be different from those that do not. Both San Joaquin and Minneapolis tried to overcome these problems by a careful matching of facilities that had volunteered to participate.

Lack of Baseline Data

Another approach to a comparison would be to use baseline information about either utilization or quality from the period prior to PSRO review and compare this information with data from the post-PSRO review period. Such a strategy is particularly appropriate for the programs that were making binding determinations, because by law they were required to function in all facilities. A time series approach (with multiple measures before the intervention and after) would be a major way to make statements about the effect of the intervention. Here the PSROs suffered from the lack of good baseline data because the kinds of measurements employed as part of MR and IPR tended to be inadequate, incomplete, and unreliably collected.

A possible way of drawing a comparison between patients covered by a PSRO LTC review program and those not covered would be through an examination of trends in AR or CSR denials or in LOC assignments over time; differences could then be sought between the pre-PSRO and post-PSRO periods. To some extent, this method was used by South Carolina and San Joaquin PSROs, both of which cited changes in the patient mix in LTC facilities in the period after the PSRO began LTC review. The problem with this method, as with all uncontrolled before and after designs, is its vulnerability to temporal bias; changes may arise, not because of the PSRO intervention, but because of some other phenomenon occurring at the same time, as discussed in the next section.

Changes Occurring Simultaneously with PSRO Review

In an uncontrolled situation it is always possible that changes may be attributed to causes other than the program being demonstrated. The PSRO LTC review projects were particularly vulnerable to this source of bias because they were necessarily functioning in a milieu that was sensitive to the activities of other organizations. For example, changes in policies at the federal level, actions of the state health department's licensure teams, independent educational activities on the part of a medical school, or even the health care association could bring about effects that might be attributed to the PSRO. Similarly, such activities could blunt real effects of the PSRO; for example, if some force were at work that rendered the quality of care worse, a failure of quality of care to decline might well represent a positive effect of the PSRO program that would go undetected because of the uncontrolled situation.

South Carolina PSRO provides an example of how external changes render comparisons of PSRO programs with a baseline situation difficult. It would be advantageous if a PSRO were able to demonstrate that its UR activity and its attendant reclassifications led to savings for Medicare, Medicaid, or both. In South Carolina, there is reason to believe that the PSRO was responsible for dramatic changes in the utilization patterns of LTC in the state. Unfortunately, while the demonstration project was operating, the state moved to a new reimbursement policy, making it difficult to compare LTC costs between the pre- and post-PSRO periods or to determine whether savings were due to PSRO reviews or to the state.

Lack of Authority to Enforce Recommendations

Several voluntary programs developed strategies for UR that could not be tested adequately in a voluntary context. Colorado, for example, developed a tracking system to follow those patients who the reviewer believed, at PAR, did not require nursing home care. The PSRO review team also instituted an activist strategy that included discharge planning. Because the program was voluntary, however, Colorado was not able to enforce its discharge plans and experienced the frustration of watching patients deteriorate to the point that they were no longer candidates for community placement while facilities employed delaying tactics. Similarly, Charles River PSRO believes that it could have demonstrated considerable impact if it had had the authority of binding review.

Reliability Problems

The question of reliability of reviewer judgment arises with intrinsic PSRO problems affecting ability to demonstrate impact. Reliability has two elements: (1) intra-rater or intertemporal reliability, which refers to consistent, reliable judgments of a single rater over time; and (2) inter-rater reliability, which refers to reliability of judgments from rater to rater. The latter is relevant when more than one reviewer makes LOC determinations or quality of care determinations and is exacerbated as an issue with frequent reviewer staff turnover.

Reliability of ratings is particularly important when a PSRO attempts to compare two groups of facilities or to compare changes over time and both forms of reliability are relevant. For example, in Utah's experiment the PSRO attempted to demonstrate that quality of care improved over time with application of the PSRO's guidelines concerning quality. Differences over time were found, but because the PSRO suffered excessive turnover of reviewers in the two-year period, it is possible that the observable differences were a function of reviewer changes rather than real changes in care. (The Utah PSRO did perform some reliability checks among staff that indicated high levels of reliability among reviewers at a given point in time.) Similarly, if multiple reviewers are used, it is important to be confident that their judgments are reliable; otherwise it will be harder to detect small differences. The problem is exacerbated (and a potential for bias added) if facility personnel who have a rapid turnover are heavily involved in data-gathering.

Measurement Problems

The constructs measured in LTC review are difficult ones, with little professional consensus about appropriate measurement techniques. As Chapter 3 indicated, most of the facilities developed their own criteria and data gathering forms. Such tools as the Utah guidelines, the San Joaquin Facility Quality Checklist, and the Minneapolis PAP were untested prior to the demonstration. In fact, Utah revised its guidelines and standards for compliance several times during the demonstration. Although these revisions were a realistic response to the Utah experience in using the criteria, these changes meant that only 36 of the original 84 guidelines remained the same over time. Such changes reduced the amount of information available for time series analysis.

Failure to Develop a Tracking System

Given all the constraints mentioned, it was not unreasonable for some of the PSROs to abandon the attempt to make scientifically valid statements about causality during the demonstrations and, instead, concentrate on describing their interventions and the degree to which their peer review recommendations were followed. Then, although causality could not be proven, strong inferences could be made about an association between PSRO review and a desired outcome. Here the major problem was the fact that most PSROs did not follow up on their recommendations to determine whether they had, in fact, been heeded. Charles River, San Joaquin, Utah, and Vermont, in varying ways, developed some tracking of the reviewer recommendations and these efforts are discussed in a later section of this chapter.

Lack of Hypotheses About Outcomes Attributable to PSRO

In no cases did the PSROs engage in more than limited *a priori* definition of the kinds of outcomes that they would expect in a successful PSRO program. This shortcoming is especially important for PSROs that had collected large amounts of data; without advance prediction about the likely direction of the effects, any findings are less impressive and can be dismissed by some as the results of "data milking" activities. This was a problem in the Minneapolis experiment discussed below. Vermont PSRO guarded against this problem in its research by issuing prior statements about the nature and direction of expected change. For example, the Vermont PSRO hypothesized that an effective review system in Vermont should lead to a decrease in the denial rate. Because it would be possible to claim effect for both an increase and a decrease (the former meaning that the PSRO had caught inappropriate utilization and the latter meaning that the PSRO had brought about a decrease in inappropriate placement over time), it is crucial that the PSRO make predictions about the expected outcome prior to data collection.

This overview of problems interfering with the ability to demonstrate effect is not offered as an indictment of the PSROs. We are aware that the initial PSRO mandate in beginning demonstration programs was not expressed in terms of showing effectiveness. Further, the environmental issues, the state of LTC measurement, and the inadequacies of comparison data were largely beyond the PSRO control. In fact, we are positively impressed that so many of the programs developed investigatory approaches or otherwise made efforts to demonstrate impact.

EXPERIMENTS IN LONG-TERM CARE REVIEW

Minneapolis Experiment

The Minneapolis Foundation for Health Care Evaluation (FHCE) developed its project as a quasi-experiment. The experiment was designed to test whether the implementation of a standardized system of preadmission data collection and service-need delineation, together with a problem-oriented, multidisciplinary planning process within the facility, could produce positive changes at the LTC facility. Eight pairs of LTC facilities were identified (one member of each pair was a control facility and the other was an experimental one). They represented a sample of different kinds of LTC facilities from extended care through intermediate and community care facilities. The study was limited to first admission; current and readmitted patients were excluded. Across the control and experimental facilities a sample of the experimental and control patients were further matched through a mechanism by which the closest fit between control and experimental patients on a wide variety of variables was obtained. Pre- and post-measures were gathered on patient status in terms of physical, social, emotional, and psychological functioning; on the activities of facility staff; on their attitudes toward patients; and on their satisfaction with their work.

It was hypothesized that:

1. Staff in the experimental facilities would perceive an increase in the utility and accuracy of preadmission information received about patient needs compared with the control facilities.

2. Experimental facilities would experience greater increase in interdepartmental coordination among their staffs than control facilities.
3. Staff in experimental facilities would devote more time to client assessment and care planning segments of the care delivery process than would control facility staff.
4. Experimental facility staff would show a positive change in work satisfaction and appreciation for the elderly compared with the control facility staff.
5. The amounts and kinds of services delivered in the first three months after admission for clients in the experimental facilities would be greater than in control facilities.
6. Experimental clients would demonstrate more improvement (or less deterioration) than control clients in terms of levels of physical and psychological functioning, social participation, and interest and satisfaction with services rendered.

The components of the experimental treatment are described in more detail in Chapter 5 of Vol. II. In summary, they consist of three parts: preadmission planning (PAP), problem-oriented planning (POP), and problem-oriented quality assurance (POQA).

PAP is a means by which a standardized data base covering 42 areas and four domains (physical, economic, mental/emotional, and social level of need) was used to define patient needs and appropriate services required. The data were gathered by facility-based review coordinators for the experimental group and by members of the PSRO staff for the control group. For the experimental group, these data were then brought to the facility and used as the basis for POP. This step consisted of the convening of a multidisciplinary team who were responsible for developing an assessment of the patient's problems, defining treatment goals (including the ascertainment of the optimal achievable status for each problem), developing treatment programs, and meeting periodically to assess progress on each of the problems faced.

The third component of the program, POQA, was fielded only in the last two months of the project and was thus unlikely to have had any significant effect during the experiment. It consisted of development of an internal quality assurance committee that would identify facility problems in delivering quality of care and develop specific programs to meet those problems with the assistance of outside consultants from the PSRO. It also called for the development of profiles of data gathered through the use of the PAP and POP processes, but these were not available during the experiment.

Random samples of both control and experimental facilities' staffs were surveyed by questionnaire at the beginning and end of the project. A followup assessment approximately six months after admission was performed on each client in the study. This assessment was conducted by PSRO personnel. The study included 168 experimental clients and 232 control clients; however, only 150 clients in the experimental sites received PAP and only 62 received POP.

With regard to changes in staff attitudes and performance, the staff was divided into three categories: caregivers in the nursing department; caregivers in rehabilitation departments; and all supervisory staff in care-related departments. Thirteen outcome variables were tested for each of the three types of caregivers. The variables were grouped into categories relating to:

1. Relations between departments, including interdepartmental coordination and communication;
2. The amount of time spent in various care planning and delivery activities such as attending care conferences, developing patient care plans, reading and writing on patient cardexes, and evaluating patient conditions;
3. The amount of information received prior to admission and the adequacy of it in planning for the new client;
4. The degree to which rules, roles, and procedures were formalized; and
5. Work satisfaction and attitudes toward patients.

None of these variables showed significant differences between experimentals and controls with regard to change over time. Thus, none of the hypothesized effects could be demonstrated. For the analysis of effects on the patients in the LTC facilities, sets of matched pairs of patients were formed. A total of 67 matches were achieved after some difficulty. Of these, only 39 pairs could be used to examine changes that required self-report of the patient at the time of post-test. Once again, no positive changes in favor of the experimental group were found. In fact, there was some evidence to suggest that the changes may have been, if anything, in a direction to suggest more change favorable to the control group, although few of the differences were at a level of statistical significance. The conclusion drawn was that the experimental group neither spent any less time in acute hospitals nor was any more likely to be released into the community than the control group.

With regard to effects on health and well-being, the results suggested that the control group improved more than the experimental group. This result may be attributable to the adverse effects of a single experimental facility because when this facility was eliminated from the analysis, there were no statistically significant differences between the experimental and control groups. Similarly, changes with regard to functional health status tended to favor the control group. The numbers of medications taken by experimental patients increased, whereas the number taken by controls declined. Once again, these changes were potentially attributable to the behavior of a single outlier facility.

With regard to other variables including social involvement, depression, antisocial behavior, and communication, no significant differences between experimental and control groups could be found.

The results of this evaluation suggest that the implementation of the program had been ineffective. Two alternative explanations need to be examined before we can make such a conclusion. The first is that the size of the sample being studied was inadequate to detect small but important differences. Only 16 facilities and 67 client pairs were involved in the study. Because most of the trends were in a direction not favorable to the experimental group, however, this explanation of the results is not particularly plausible.

More important is the question of whether a true treatment had occurred, whether the facilities had been sufficiently involved in the PAP and POP process that its effects were adequately tested. There is some reason to believe this had not been the case. We have already noted that the POP component was in place in only the last nine months of the project. Only 62 clients were involved. Lack of treatment effect is also suggested by the lack of difference in the perceptions of the facility staff members in the experimental and control facilities about the amount of information that had been received prior to admission and the adequacy of that information in planning for the new client. Nor did they demonstrate any difference in the degree to which they perceived staff roles and procedures for patient care as formalized, despite the heavy structure imposed by the PAP and especially POP systems.

Because the underlying assumption of the PAP and POP process was that facilitation of the transfer of information between acute and LTC facilities and structuring of a new set of rules and procedures would lead to improved quality of nursing home care, a failure to demonstrate differences in staff perception regarding these program parts suggests an inadequate implementation of the program. This inadequacy may be explained in part by the restriction of the study group to new patients who represented only a small proportion of the totals coming into the facility during the study period. Observations by the project staff suggested that many experimental facilities continued to use the traditional procedures for the rest of their activities and treated their PAP and POP components as specific add-ons only. In addition, because the procedure was carried out on a voluntary basis without binding status, the degree of enforcement was also limited.

We are left, then, with a set of ambiguous results. The treatment as defined could not be demonstrated to have any of the results anticipated and therefore cannot be said to be effective. Nonetheless, this was clearly not an adequate trial of the treatment at its optimal level; the techniques developed by the Minneapolis PSRO probably deserve further testing.

Other information did emerge from the study. Data gathered from the full range of PAP assessments were used to develop patient clusters for which a group of outside clinicians could develop standardized treatment protocols. In reviewing the assessments, the clinical experts found a number of patients for whom they would have recommended a lower LOC than that assigned by the review coordinator. In 50 percent of the patients evaluated by the facility-based coordinators and in 26 percent of the patients evaluated by the single PSRO assessor, a lower LOC would have been recommended by the clinical experts.

Although one might argue with the extent of the discrepancy (the difference between the 50 percent and the 26 percent), it is important to recognize that judgments made by facility-based coordinators tended to be much less stringent than those made by the PSRO assessor. Although part of this difference can be attributed to the statistical variation between a single PSRO reviewer and variety of facility reviewers, other data support the contention of inconsistency. Further analyses suggested that the functional status of clients assigned to skilled care varied substantially. This finding supports the concern that consistent standards for LOC decisions were not applied in the absence of explicit criteria.

San Joaquin Experiment

SJPSRO Study. As part of the San Joaquin project, the PSRO conducted an experiment to assess the effects of active feedback in reducing the rate of deficiencies uncovered in review of nursing home records. Explicit criteria in the form of a checklist were written for 43 items covering the adequacy of admission and transfer information, physician services, nursing services, pharmacy, and a collection of special services including dietary services. (See Appendix D for a copy of the criteria and Chapter 3 for more discussion about their use.)

The audit was based on chart review and covered the previous two months (with the exception of admission data). Variations and partial variations from the criteria were treated as deficiencies for the purpose of the study. The audits were performed by teams of nurse review coordinators trained in the use of the criteria. The auditors were *not* blinded to whether the home was included within one of the feedback groups or the control group. No data on inter-rater or intra-rater reliability were presented.

The study sample included three groups of nursing homes with five homes in each group. The initial study called for two study groups with the first study group to be given intensive feedback by the review coordinator and a matched control group to receive no feedback. After discussions with HSQB, it was decided to add a second study group that would receive a less intensive level of feedback that would more closely resemble actual PSRO practices. In the initial design the first study group and the control group had been reasonably matched; when the second study group was added, the matching was much less satisfactory. (In a small area such as San Joaquin, the number of LTC facilities available for matching is limited.)

Initial baseline observations were made in all homes between December and March 1978. Followup application of the criteria was performed between May and August of 1978. During the intervening period the two study groups received different levels of feedback. In the initial analysis performed by SJPSRO and their contractor (SEARCH), all cases reviewed at Time 1 were compared with all cases reviewed at Time 2; and the changes in proportion of deficiencies of the two study groups and the control group were contrasted. The study included 249 cases at Time 1 and 237 at Time 2 in the intensive feedback group; 264 and 277 cases in the less intensive intervention group; and 203 and 192 cases in the control group.

The differences in deficiency exception rates over time for the three groups are shown in Table 5.1. According to the SJPSRO/SEARCH analysis (Allison-Cooke et al., 1978), the findings were as follows:

1. Of the five quality of care categories, the two experimental groups showed more positive change than the control group in all categories but pharmacy.
2. Improvement over time was statistically significantly greater for the two experimental groups than for the control group for physician services and special services.
3. At Time 1 the experimental group had many more deficiencies in the nursing service category than did the control group, while at Time 2 the groups were about equal. (The difference in change rate was not statistically significant.)
4. In the pharmacy category, the experimental groups showed an increase in deficiency rate compared with the control groups. (This, too, was not statistically significant.)

All the above findings are based on figures averaging the results across all of the items included under each of the five general headings. It is certainly possible that the averaging of items in this manner may have masked or distorted effects. Table 5.2 shows the exception rates at Time 1 and Time 2 for individual items.

Table 5.1

CHANGE IN QUALITY OF CARE CATEGORY EXCEPTION RATES BY STUDY GROUP: SJPSRO

Category	Study 1 Intensive Feedback			Study II Regular Feedback			Control		
	Time 1 (N=249)	Time 2 (N=237)	% Change	Time 1 (N=264)	Time 2 (N=277)	% Change	Time 1 (N=203)	Time 2 (N=192)	% Change
Admission/Transfer Information	30.7[a]	14.4	(53)	34.2[a]	20.5	(40)	30.5[a]	19.0	(38)
Physician's Services Care Plan, Orders, and Follow-up	3.6	2.9	(19)	5.0	4.4	(12)	4.3[a]	10.5	(-144)
Nursing Care Plans and Care	16.3	16.7	(- 3)	19.5[a]	12.7	(35)	9.0[a]	16.6	(- 84)
Pharmaceutical	6.6	9.5	(-44)	11.4	11.9	(- 4)	4.7	5.9	(- 26)
Special Services, Environment and Diet	2.7	2.2	(19)	8.9[a]	1.6	(82)	3.0	6.8	(-127)
Overall	9.7	7.9	(19)	13.7	7.7	(44)	7.8	10.4	(- 33)

SOURCE: SJPSRO Long-Term Care Demonstration Project Final Report.

[a] Differences between Time 1 and Time 2 significant by x^2 at $p <.001$.

The analyses done by SJPSRO and its consultant[1] were based on comparisons of mixed groups of patients between Time 1 and Time 2. Some of the patients reviewed at Time 1 had been discharged in the interim and new patients had also been admitted. In making comparisons between the groups of patients reviewed at the two points in time, therefore, one must assume that the groups of patients are equivalent, without evidence one way or the other. The chi-square tests used by SJPSRO to assess the significance of the changes within each of the three study groups on categories of quality items are predicted on an assumption of comparability of the patients at Time 1 and Time 2. This requires an assumption either that patient characteristics had no effect on nursing home staff performance for the items measured or that those patient characteristics that might affect performance of nursing home staff are the same at both times of measurement.

Rand Reanalysis. With the agreement of SJPSRO, the Rand study team re-evaluated these data. In our first analysis we included only those patients who were reviewed in both study periods. The rationale for this decision was based on the possibility that changes shown by the previous analysis could be attributed to a changed sample. The new group in our analysis included 172 cases receiving intensive feedback, 202 receiving less intensive feedback, and 143 control patients. Table 5.3 displays the differences between the SJPSRO/SEARCH and Rand samples, showing that the former analysis used a sample of 716 at Time 1 and 706 at Time 2, and the latter a sample of 517 in both periods. Our procedure excluded patients who had died, been discharged, or been admitted between the two measurement points.

The reanalysis with only those patients present at both Time 1 and Time 2 could have one of two effects: (1) if patient characteristics do not influence results in any

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[1] As this report was going to press, the final SEARCH report of the SJPSRO Concurrent Quality Review study was released (Allison-Cooke and Ellis, 1979). Although we received the report too late to include it in our review, interested readers should refer to it for its description of a weighted scoring system for the variables on the SJPSRO checklist. The authors of the SEARCH report opted to compare the differences among the three groups of patients using analysis of variance techniques.

Table 5.2

CHANGE IN QUALITY OF CARE ITEM EXCEPTION RATES BY STUDY GROUP: SJPSRO

Checklist Item	Study I Intensive Feedback Time 1 (N=249)	Study I Intensive Feedback Time 2 (N=237)	Study II Regular Feedback Time 1 (N=264)	Study II Regular Feedback Time 2 (N=277)	Control No Feedback Time 1 (N=203)	Control No Feedback Time 2 (N=192)
ADMISSION/TRANSFER INFORMATION						
1a. Demographic Information	23.4	0.0	22.0	10.9	13.8	17.2
1b. Medical Information	39.8	27.5	45.6	28.0	45.3	33.9
1c. Chest x-ray	37.3	21.3	38.5	32.9	41.9	13.6
1d. Nursing Evaluation	19.2	7.6	29.2	5.4	17.4	7.5
MD SERVICES						
2a. Diet Instructions	0.4	0.8	1.1	1.1	1.0	3.6
2b. Activities Mentioned	10.0	4.2	7.6	8.7	8.4	27.4
2c. Rehabilitation Potential	3.2	5.9	17.0	11.9	10.8	31.8
2d. PRN Medications Considered	5.2	2.5	1.1	1.8	2.0	1.6
2e. Consistent with Services	0.4	0.0	0.0	0.0	0.0	0.0
3a. Plan Re-evaluated	2.4	0.4	1.1	4.0	3.5	2.6
3b. Relevant to Condition	3.6	5.7	6.5	3.3	5.5	5.7
3c. 24-hour Response	3.1	6.1	6.7	7.7	1.7	16.7
RN SERVICES						
4a. Adequate Plan	12.2	4.6	19.7	1.8	5.0	9.4
4b. Daily Care Requirements	14.7	5.1	25.0	3.0	9.4	4.2
4c. Plan Re-evaluated	34.8	24.3	36.5	24.8	16.9	37.2
5a. Care Completed	3.2	22.8	9.8	18.1	4.0	12.0
5b. Appropriate Charting	37.8	40.1	35.3	26.0	14.3	34.4
5c. Information Verified	0.4	0.0	1.5	0.0	1.5	1.0
5d. Correct Transcription	4.8	7.2	10.6	7.9	5.4	3.6
5e. MD Orders Completed	13.7	30.4	17.0	20.6	12.8	18.2
5f. MD Orders Verified	30.2	9.5	22.5	12.5	9.1	20.0
5g. MD Notifications[a]						
PHARMACY						
6a. Correct Rx Given	4.9	13.6	7.1	4.7	5.0	6.0
6b. Dosages Correct	0.8	0.4	2.0	0.4	1.0	0.5
6c. Form Correct	0.4	0.0	0.4	0.0	0.5	0.0
6d. Frequency Correct	11.9	25.0	21.2	11.3	10.0	20.1
6e. Charting Correct	7.4	0.9	8.2	0.8	5.5	3.2
6f. Stopped Drugs--MD[a]						
6g. Reactions Reported[a]						
6h. Regimen Reviewed	8.8	18.3	28.8	60.6	5.2	1.6
6i. PRN Justified	13.8	8.1	12.6	3.4	4.8	10.6
OTHER						
7a. Special Service Given	13.6	25.0	11.6	11.5	12.3	20.0
7b. Special Service Needs[a]						
7c. Individual Needs	1.2	0.0	0.8	0.0	1.5	0.0
7d. Planning Continuity	15.3	12.7	48.9	11.9	9.4	57.1
7e. Activities	1.2	0.4	0.4	0.0	1.0	0.0
8a. Safe Environment	0.4	0.0	3.0	0.0	2.0	0.0
8b. Sanitary	2.0	0.0	0.0	0.0	1.5	0.0
8c. Unit ID	1.6	0.0	24.6	0.7	2.0	0.0
9a. Diet/Dental	0.8	0.0	1.5	0.0	2.5	1.0
9b. Orders Given	0.0	0.4	0.4	0.4	2.0	1.0
9c. Assistance Given	0.0	0.0	0.0	0.0	0.0	0.0
9d. Extra/Fluids	0.0	7.1	7.1	1.8	4.7	9.5

SOURCE: SJPSRO Long-Term Care Demonstration Project Final Report.

[a] Insufficient cases.

Table 5.3

SAMPLE FRAMES FOR ANALYSIS OF SJPSRO DATA

Sample Group	Number of Patients in Sample SJPSRO/SEARCH Before	 After	 Rand Reanalysis[a]
Intensive Feedback	249	237	172
Regular Feedback	264	277	202
Control Group	203	192	143
Total	716	706	517

[a] Rand included only those individuals available for both the before the after measurements.

meaningful way, we have simply reduced the sample size; or (2) if patient characteristics are important, we have minimized the bias attributable to change in the actual sample being measured, but increased any bias associated with the fact that this sample has been in the nursing home long enough to have been included in both reviews (eliminating those who recovered, died, or were transferred out of the nursing home in the period between reviews). By limiting our analyis to the patients who were reviewed at both points, we also could examine the changes in performance of staff with regard to the exact group of patients about whose care feedback had been experimentally manipulated.

Our reanalysis showed that for most criteria, the number of individuals for whom the rate of deficiency increased or decreased was small; the majority of the sample remained stable over time. We concluded that a comparison of the total sample in each of the three treatment groups on each of the dependent variables was not appropriate because the large number of stable members distorts the analysis, sometimes leading to overstatements about statistical significance. McNemar's test, a non-parametric variation of a chi-square test, was chosen to compare the three groups because it is designed to identify significant shifts from one status to another. The McNemar test, however, should not be used if the number of cases changing status from one time period to another is too low (less than 9): under such conditions the conclusion that there is no evidence for change is appropriate. This rule was followed in our analysis.

Table 5.4 summarizes the results of the reanalysis of the paired data for the three groups being studied; rather than grouping criteria, each was handled separately. The items on admission data were omitted from this analysis because they were not subject to the possibility of change over time. A capital letter indicates a statistically significant change at the .05 level; a small letter indicates a change large enough to warrant use of the McNemar test, but not sigificant at the .05 level.

Several impressions emerged from this table. The overall pattern suggests no change in the majority of items. When changes did occur, however, these generally

Table 5.4

Reanalysis of Paired Data from SJPSRO Quality Checklists

Checklist Item	Study 1 (Intensive Feedback) (N = 172)	Study 2 (Regular Feedback) (N = 202)	Control (No Feedback) (N = 143)
MD SERVICES			
2a. Diet Instructions	-	-	-
2b. Activities Mentioned	I	i	D
2c. Rehabilitation Potential	-	I	D
2d. PRN Medications Considered	-	-	-
2e. Consistent with Services	-	-	-
3a. Plan Re-Evaluated	-	d	-
3b. Relevant to Condition	d	i	d
3c. 24-Hour Response	-	-	-
RN SERVICES			
4a. Adequate Plan	I	I	D
4b. Daily Care Requirements	I	I	i
4c. Plan Re-Evaluated	I	I	D
5a. Care Completed	D	D	D
5b. Appropriate Charting	d	I	D
5c. Information Verified	-	-	-
5d. Correct Transcription	-	i	i
5e. MD Orders Completed	I	i	d
5f. MD Orders Verified	-	-	-
5g. MD Notifications	-	-	-
PHARMACY			
6a. Correct Rx Given	D	i	-
6b. Dosages Correct	-	-	-
6c. Form Correct	-	-	-
6d. Frequency Correct	D	i	D
6e. Charting Correct	I	I	i
6f. Stopped Drugs - MD	-	-	-
6g. Reactions Reported	-	-	-
6h. Regimen Reviewed	D	D	-
6i. PRN Justified	i	I	-
OTHER			
7a. Special Service Given	-	-	-
7b. Special Service Needs	-	-	-
7c. Individual Needs	-	-	-
7d. Planning Continuity	i	I	D
7e. Activities	-	-	-
8a. Safe Environment	-	-	-
8b. Sanitary	-	-	-
8c. Unit ID	-	I	-
9a. Diet/Dental	-	-	-
9b. Orders Given	-	-	-
9c. Assistance Given	-	-	-
9d. Extra/Fluids	-	-	-

- = Stable over time, insufficient change to test for statistical significance.

I = Significant improvement (decrease in number of deficiencies) from T_1 to T_2 at $p < .05$ by McNemar's Test.

i = Nonsignificant improvement from T_1 to T_2 at $p < .05$ by McNemar's Test.

D = Significant deterioration (increase in number of deficiencies) from T_1 to T_2 at $p < .05$ by McNemar's Test.

d = Nonsignificant deterioration from T_1 to T_2 at $p < .05$ by McNemar's Test.

consisted of improvements in one or the other of the study groups and a worsening in the control group. Feedback appeared to have been particularly beneficial for nursing services where emphasis was on charting (and also where the peer review concept was most operative and feedback most immediate). There are only two instances in which improvement was significant in the intensive feedback group but not in the less intensive study group, and there are five instances where the opposite was true. We are reluctant to interpret these data as suggesting an effect in categories other than nursing services, although there are some mixed suggestions of other effects. In general, with only a few exceptions, the significant effects favor the study groups over the control group. (The most dramatic exception is the increase in deficiencies for reviewing the medication regimens in both study groups.)

As stated above, our first choice for reanalysis involved the strategy of eliminating patient characteristics as a confounding variable and using the subgroup of patients who were reviewed at both Time 1 and Time 2. SJPSRO, however, indicated that this procedure may have understated the effect of the intervention. The PSRO asserted that they would have hypothesized a maximum effect on newly admitted patients; the PSRO's expectation was that nursing home personnel might be less likely to correct the deficiencies brought to their attention regarding particular patients than to apply the correct principles to the records and care of new patients.

To test the possibility that looking at only those patients present at both Time 1 and Time 2 may have biased the analysis and obscured the effect of the SJPSRO intervention, we performed a second analysis to look at changes in new patients that may have occurred as a result of feedback regarding the first group. Deficiency rates for patients admitted within six months of the first review were compared with deficiency rates for patients admitted to the nursing home after Time 1 and reviewed at Time 2. Comparisons of change in deficiency rates over time were made for each study group and tested for statistical significance using the chi-square test. This procedure is subject to the same caveat already mentioned; apparent differences may be a result of differences in patient mix rather than the treatment effect. However, a lack of significant difference would support the conclusion that no true difference exists as a result of treatment. Also, if both the study groups and the control group records show statistically significant differences between the two times (and one can assume comparability between control and treatment groups), this would again suggest no true differences as a result of the treatment.

Groups of "new" patients were identified for each study group. For the intensive feedback group there were 67 patients at Time 1 and 65 at Time 2. For the regular feedback group there were 75 at each time period, for the controls 70 at Time 1 and 49 at Time 2. The change in rate of deficiencies over time was compared for each quality checklist item using chi square as the test of statistical significance. Two levels of probability were used, .05 and 0.2, to identify any trends; the latter was used as a very liberal threshold to assure that no deficiencies would be overlooked.

Table 5.5 shows the results of this analysis; no clear pattern is discernible. In only three instances of the 43 items tested was there a pattern when the intensive feedback group did better than the regular feedback group, which, in turn, did better than the controls. In fact, differences appeared to be fairly evenly distrib-

Table 5.5

CHANGE IN DEFICIENCY RATES AMONG "NEW" PATIENTS FROM SJPSRO QUALITY CHECKLIST

Checklist Item	Plan 2 Study 1 Intensive Feedback (N = 67,65)[a]	Plan 3 Study 2 Regular Feedback (N = 75,75)	Plan 1 Control No Feedback (N = 70,49)
ADMISSION/TRANSFER INFORMATION			
1a. Demographic Information	I	i	-
1b. Medical Information	i	-	i
1c. Chext X-Ray	-	-	-
1d. Nursing Evaluation	-	i	-
MD SERVICES			
2a. Diet Instructions	d	d	d
2b. Activities Mentioned	-	D	D
2c. Rehabilitation Potential	d	-	D
2d. PRN Medications Considered	-	-	-
2e. Consistent with Services	-	-	-
3a. Plan Re-evaluated	-	-	-
3b. Relevant to Condition	-	I	i
3c. 24-hour Response	-	-	D
RN SERVICES			
4a. Adequate Plan	I	I	-
4b. Daily Care Requirements	I	I	i
4c. Plan Re-evaluated	i	-	D
5a. Care Completed	D	-	d
5b. Appropriate Charting	-	-	D
5c. Information Verified	-	-	-
5d. Correct Transcription	d	-	-
5e. MD Orders Completed	D	-	d
5f. MD Orders Verified	I	-	D
5g. MD Notifications	-	D	-
PHARMACY			
6a. Correct Rx given	d	-	-
6b. Dosages Correct	-	-	-
6c. Form Correct	-	-	-
6d. Frequency Correct	D	I	D
6e. Charting Correct	-	I	-
6f. Stopped Drugs - MD	-	-	-
6g. Reactions Reported	-	-	-
6h. Regimen Reviewed	d	D	i
6i. PRN Justified	-	i	D
OTHER			
7a. Special Service Given	d	-	-
7b. Special Service Needs	-	d	-
7c. Individual Needs	-	-	-
7d. Planning Continuity	-	-	D
7e. Activities	-	-	-
8a. Safe Environment	-	I	-
8b. Sanitary	i	-	-
8c. Unit ID	-	I	i
9a. Diet/Dental	-	i	i
9b. Orders Given	-	-	-
9c. Assistance Given	-	-	-
9d. Extra/Fluids	d	i	-

- = Stable over time, change not significant at $p \leq .2$ by chi square test.

I = Significant improvement from T_1 to T_2 at $p \leq .05$ by chi square test.

i = Nonsignificant improvement from T_1 to T_2 at $.2 \geq p > .05$ by chi square test.

D = Significant deterioration from T_1 to T_2 at $p \leq .05$ by chi square test.

d = Nonsignificant deterioration from T_1 to T_2 at $.2 \geq p > .05$ by chi square test.

[a] Numbers in parenthesis refer to sample size at Time 1 and Time 2.

uted, perhaps favoring the feedback groups slightly. The intensive group improved on six items (three significantly) and deteriorated on ten (three significantly). The regular feedback group improved on 12 items (seven significantly) and deteriorated on five (three significantly). The controls improved on six (none significantly) and deteriorated on 12 (nine significantly). Such results do not indicate any impressive effect of feedback for new patients as opposed to the previous analysis, especially in light of the earlier discussion of alternative explanations for the data.

The SJPSRO study may be best viewed as a more formally done MCE sudy in which the intensity of feedback was varied. The study design was thus closer to that of an ongoing audit where groups of patients in the homes were compared at different points in time. Of more concern from the standpoint of making definitive statements about the effect of feedback is the potential influence of the study goals on the reviewers. Because reviewers knew the study group status of the home, they may have been biased in their interpretation of deficiencies by a belief that feedback would decrease these deficiencies. Certainly blinding of the reviewers would have been a more elegant, if more difficult, feature of the study and would have added strength to its findings.

The second point to be appreciated is the difference among the three groups at Time 1. The experimental homes had higher deficiency rates at the outset. To some degree, a simple regression toward the mean could help explain the changes noted.

Utah Experiment

Study Design. The Utah PSRO's demonstration was cast in the form of an experiment to determine the generalizability or spillover effects of the PSRO review program. Utah set out to test the hypothesis that reviewer feedback on performance would result in improvements not only in the care of the patients about whom feedback was provided but also in the care of other patients in the same facility about whom no feedback had been given.

The demonstration started with 20 volunteer homes in the Salt Lake City area. In the course of the demonstration, some homes dropped out, with an average of about 17 homes participating at any point. In each of these homes, the Medicaid patients were divided into two groups matched on diagnosis, LOC, sex, and ambulatory status. The study and the control groups together included about 700 patients. During January to May 1977, a set of criteria developed by the LTC physician advisory committee and termed "guidelines" by the Utah PSRO was applied to all patients in the study to develop baseline data. At five subsequent times through August 1978, the guidelines were again applied to all patients in the study. On these occasions, interventions were made for the study group. It was expected that the exception rate would decrease for the study group because of the interventions and that the exception rate for the control group would decrease because of a "spillover effect."

Certain features of the methodology should be noted. Staff turnover was very high among the review coordinators as well as among the project management during the experimental period. This is important because of the judgment required to apply the guidelines in determining when an "unexcused" exception has occurred. Staff turnover increases the chances that such judgments were made differently at different times. The effects of the staff turnover were to some extent mitigated by evidence of high inter-rater reliability in choosing appropriate guidelines and recognizing exceptions. A comparison of 85 abstracts showed only five to have differences affecting the data. As individual patients left the two groups, they were replaced in those groups by new patients that were pair-matched between the groups but not matched to the original patient population. Thus, although the two groups were matched to each other at any point, the final control group was not necessarily matched to the initial control group; and the same is true for the study group.

Several of the initial criteria were changed prior to the third of the six review cycles. Of the 84 total guidelines, 36 remained unchanged throughout the entire six cycles, and all 84 were constant in cycles three through six. Of the 36 that remained unchanged, data were collected for both the control and study groups on only 15 at the first, third, and sixth cycles. Data on the 36 constant guidelines were collected for the study group in all six cycles.

Results. Exception rates decreased for both groups: from 53 percent to 19 percent for the study group and from 47 percent to 23 percent for the control group (comparing baseline with last review cycle using the 15 "constant" guidelines). Table 5.6 shows the change in exception rate for the 36 constant guidelines for the study group in all six cycles. Table 5.7 shows the exception rate for the 15 constant guidelines for both groups in cycles one, three, and six.

Because the collection of baseline data (data collected but no interventions made) occurred at only one point, it is not possible, without a key assumption, to distinguish between two very different explanations of the observed data. One explanation is that UPSRO's initial expectation of a "spillover" effect was support-

Table 5.6

GUIDELINE APPLICATIONS, EXCEPTIONS, AND INTERVENTIONS IN SAMPLE GROUP IN ALL CYCLES USING 36 COMPARABLE GUIDELINES: UTAH DATA

Review Cycle	Guideline Applications	Exceptions	Rate (Percentages)	Interventions Performed[a]
Baseline	1,582	873	55	
Second	1,406	631	45	72
Third	1,447	552	38	5
Fourth	1,482	476	32	48
Fifth	1,504	493	33	56
Sixth	1,516	428	28	50[b]

SOURCE: Utah Final Demonstration Report.

[a] Does not include PACE interventions.

[b] These interventions performed after data was collected.

Table 5.7

Summary of Concurrent Review of Study and Control Groups Using 15 Comparable Guidelines: Utah Study

Cycle		Guideline Applications	Exceptions	Rate (Percentages)
Baseline	Study	1,017	544	53
	Control	1,136	538	47
Third Cycle	Study	834	248	30
	Control	848	208	25
Sixth Cycle	Study	918	178	19
	Control	996	234	23

SOURCE: Utah Final Demonstration Report.

ed because the exception rate for both groups decreased a comparable amount. A competing explanation is that the interventions had no effect on exception rate for either group. Had a second baseline data point been available to show that the exception rate was constant over time (or increasing) for both groups, then the first explanation would be supported although an independent external force still could not be ruled out. If a second baseline point had shown that the exception rate was decreasing for both groups, then the second explanation would be supported. If a second baseline point showed different trends for the two groups, then the adequacy of their matching would be called into question. Unfortunately, in the absence of this second baseline point, few conclusions can be safely drawn from the study.

PREADMISSION REVIEW (PAR) STUDIES

Three of the demonstrations performed studies of the PAR process—South Carolina, Multnomah, and San Joaquin. None of the PAR studies performed under the demonstrations can make claims to methodological rigor, and it is rather difficult to draw any conclusions from their results.

Theoretically, PAR's impact might be reflected in any of the following ways:

1. Prevention of inappropriate nursing home placement under Medicaid or Medicare.
2. Prevention of nursing home placements for patients who were legally eligible, but who were also candidates for alternative placement.
3. Assuring that nursing home placements were at the correct LOC.
4. Improving the transfer of information between acute hospital and long-term care facilities.

Demonstration of the impact of a PAR system is replete with all the obstacles described in the introduction to this chapter; without comparative or baseline data, conclusions about the impact of a PAR system would need to be tentative at best. Each of the PAR studies performed under the demonstration attempted to address somewhat different questions about preadmission review. In addition to general questions about effectiveness, there are a host of secondary questions concerning the relative merits of different PAR strategies. For example, it is of interest to note the relative effect of hospital reviewers versus PSRO reviewers in performance of PAR.

South Carolina PAR Study

South Carolina's Admission Review (AR) was delegated to LTC facilities; the nursing home thus had the responsibility for the initial LOC determination at the time of the patient's admission to the LTC facility. The South Carolina Foundation for Medical Care conducted a feasibility study to determine the merits of delegating PAR to hospitals as an alternative to this nursing-home delegated AR. A nurse at each of nine participating hospitals was trained by the PSRO to make LOC determinations; these decisions, in turn, were applied on behalf of patients who were referred to five nursing homes. The PSRO developed a scoring system to guide the hospitals in making their LOC determinations. (See Chapter 3 for a description of this scale.)

The sample of PARs for the pilot study was limited to 45 reviews scattered across the nine hospitals; it is difficult to draw conclusions from such a small sample. A PSRO evaluation team reviewed each of the 45 decisions and agreed with 41 (89 percent) of the LOC determinations. Although this outcome was excellent, the PSRO staff felt that the hospital personnel were less accurate in LOC decisions than the nursing homes. This was attributed to the fact that (1) hospitals were less familiar with LOC criteria; and (2) unlike the nursing homes, which had a financial incentive to make correct determinations because they could lose the right of delegated AR if their performance was poor, the hospital's incentive was to discharge the patient; and it was therefore more concerned about placement and less concerned about the level of care.

The PSRO sent questionnaires to participating hospitals and nursing homes. The hospitals reported few problems and tended to endorse the scoring system as helpful to them in making LOC decisions. Less positively, the responses from four nursing homes (accounting for the admission of all but one patient) suggested that transfer of information was *not* facilitated by this PAR procedure.

Multnomah PAR Study

According to its final demonstration report, the Multnomah PAR experiment was designed to "assess the impact and effect of preadmission certification on level of care decisions, documentation and staffing." The PSRO was particularly interested in the effect of PAR on the accuracy and completeness of transfer information.

Three hospitals participated in a six-month PAR pilot during which precertification was performed for SNF patients referred to LTC facilities. A different strategy for PAR was used in each of the three hospitals; decisions were made by a PSRO Utilization Review coordinator in the first hospital, by a hospital social worker in the second, and by an employee of the visiting nurse association in the third. The outcomes that were examined included:

1. A comparison between the LOC determination made in the facility after the patient's admission and the PAR determination.
2. An analysis of questionnaires sent to facility review coordinators to determine adequacy of transfer information.
3. An analysis of questionnaires sent to the participating hospitals to determine the effect of performing PAR on their staffing patterns.

The results on all three dimensions were inconclusive. During a three-month period, one hospital discharged 21 of 25 patients at the ICF level, whereas the nursing facilities judged all 25 patients to be appropriate for the SNF level. The PSRO interpreted this as the result of an inexperienced review coordinator in the hospital. Because the system was delegated, however, it is difficult to know why the LTC reviewer should serve as the criterion measure for the hospital reviewer or vice versa.

The questionnaire method for assessing impact on transfer of information was inadequate, partly because there were major personnel changes at the nursing home reviewer level that made it difficult for the respondents to assess the adequacy of transfer information before the PAR program began. The findings suggested no differences in adequacy of transfer information as perceived by the facility reviewers. In the Multnomah report, this finding is followed by an anecdotal statement that after PAR was discontinued and after the questionnaires were completed, the reviewers then noticed "a tremendous change" for the worse. Unfortunately, no figures were provided to support the assertion.

San Joaquin PAR Study

The SJPSRO LTC review system incorporated both PAR and AR for Medicare (i.e., SNF) admissions. SNF patients admitted from SJPSRO acute care facilities received PAR as part of the acute care discharge process, and this review was conducted by the PSRO acute care review coordinators in those facilities. SNF patients admitted from other settings in the SJPSRO area (e.g., from the patient's home or from a domiciliary care facility) or from outside the SJPSRO area received AR after admission to the LTC facility. These reviews were performed by the LTC review staff, usually in the facility, but occasionally by telephone. Both PAR and AR were based on the same criteria and, theoretically, should have produced the same results when applied to the same set of patients.

Patients receiving PAR and who were denied Medicare (i.e., SNF) certification were usually admitted at a lower level of care or as self-pay SNF patients, but they never incurred Medicare charges because the certification decision was made before admission to the LTC facility. In contrast, SNF patients receiving AR were first admitted as Medicare patients; then they were reviewed and a certification decision made. In cases where SNF care was not certified, the patient incurred Medicare days both before and after review because Medicare has a grace period provision whereby the facility is paid by Medicare for those days. The number of Medicare days incurred in such cases normally ranged between three and eight.

SJPSRO conducted a demonstration of PAR for the nine months from March through December 1977. As part of the discussion of this pilot study, the percentage of admissions not certified by PAR was compared with the percentage not certified by the AR process. The results are shown in Table 5.8. The SJPSRO analysis points out that (1) the difference between the noncertification rates of the two types of review was very small, (2) nearly 20 percent of those receiving AR incurred Medicare days even though that admission was eventually not certified, and (3) for the 20 percent of patients receiving AR who were first admitted as Medicare patients, then not certified, it was necessary to change payment status and LOC.

The modest conclusion of this study may best be appreciated if one recognizes that SJPSRO undertook the comparison at the request of HSQB but was reluctant to use an experimental design for fear of experimenting with patients. As a result, any interpretation of the comparison must be made with caution. If it is assumed that PAR and AR would result in the same decisions if applied to the same set of patients, then it is obvious that those not certified in PAR would incur Medicare days if they received AR instead. A comparison of noncertification rates is not needed to support that conclusion. If the equivalence of decisions resulting from the two review processes cannot be assumed, then an experiment comparing review outcomes when the two processes are applied to comparable groups of patients would be of interest. However, the study reported here applied the two processes to two groups of patients that are very unlikely to be comparable, considering the differences in setting from which they sought admission. Consequently, the small difference observed in noncertification rates between the two types of review probably arise from differences in the two patient groups and cannot be ascribed to the choice of review technique.

Implications of PAR Studies

Taken together, these three PAR studies do not add greatly to our knowledge about PAR, its processes, or its impacts. If anything, they suggest that caution is warranted in making assumptions that the existence of a hospital-based PAR program will perceptibly improve the quality of information transferred to nursing homes.

A related question—virtually unstudied—concerns the extent to which more complete information upon admission leads to more thorough care or more active

Table 5.8

ADMISSION CERTIFICATION STATUS ACCORDING TO TYPE OF REVIEW: SAN JOAQUIN

	Preadmission Review	Concurrent Admission Review	Total
Admission Certified	854 (76%)	175 (80%)	1029 (77%)
Admission Not Certified	266 (24%)	43 (20%)	309 (23%)
Total	1120	218	1338 (100%)

SOURCE: "LTC Demonstration Project Final Report" San Joaquin PSRO, 1978, p. 8.

and/or happier patients. Originally we had hoped to be able to compare Multnomah patients discharged from the three PAR-participating hospitals to those discharged from non-PAR hospitals on such dimensions as number and timing of nursing services offered, medications received, and problems identified. We were deterred from this plan for two reasons. First, according to the study itself the PAR process did not lead to better information exchange in the view of nursing home personnel; second, the lack of dates on the facility data sheets prohibited temporal sequencing of the reviews and raised doubts about the completeness of the information on the forms (see Chapter 4).

Through an expanded MCE study process, Vermont has generated findings suggesting that more complete transfer information may be associated with greater patient satisfaction. (This study is discussed in Chapter 6.)

The Minneapolis PSRO's hypotheses that staff of its experimental nursing homes that participated in PAR would be better informed about patients and more satisfied were not confirmed. Here the faulty assumption was that completion of the Patient Assessment Form by a facility representative (usually the social service designee) would have a substantial impact on the rest of the staff. A positive effect was further precluded when only a small fraction of patients in each facility underwent PAP and, thus, had such an assessment in their records.

The primary purpose of PAR—facilitation of placement and/or LOC decisions that are both legally correct and compatible with patients' capacities and needs—is not readily tested. A thorough exploration would require study not only of placements made but also of placements averted through a PAR process. Albeit without binding review during the demonstrations, projects such as Colorado and Charles River found that their efforts to identify alternative placements for patients were generally futile. The realistic pressures on the hospital side (including those produced by PSRO UR) mediate against community-based discharge planning. Ironically, a few days of hospital stay certified for the sole purpose of establishing a community living plan might be cost-effective in terms of total Medicare/Medicaid dollars. Although a PSRO with active programs of acute and LTC review would be the logical means to test this contention, at the moment no data are available to confirm this suggestion or to establish criteria for patients amenable to such noninstitutional discharge planning. The demonstrations have not helped in this regard.

IMPACT OF A CONCURRENT REVIEW SYSTEM

We have thus far described three formal quasi-experiments in concurrent quality assurance review and three pilot studies in PAR. Now we approach the question of impact of the review system as demonstrated by its working records rather than by any experimental comparisons. Such case studies of impact, although they can never definitively attribute causality to PSRO review, can nevertheless be convincing if a heavy weight of evidence is mustered linking PSRO actions to reactions in the care system.

The majority of the PSRO demonstrations developed a procedure for giving at least some feedback to physicians on deficiencies found (through a peer review mechanism) and to facility personnel (through immediate reviewer feedback, followed by more formal actions if required). Various procedures were developed for recording these actions. In Colorado, such interventions were given in writing to facility administrators or to facility social service designees and/or caseworkers at the Division of Social Services, depending on the nature of the recommendation. In Charles River, review coordinators kept "diaries" containing their observations of problems. In South Carolina, referrals to the physician advisor were made on "pink slips." The pink slips have not been analyzed to aggregate the kinds of problems encountered, nor have the nurse reviewers developed a mechanism to follow up patients to see if deficiencies have been addressed. In Utah, the nurse reviewers kept intervention logs in which they recorded patient problems, reviewer actions, and, at a later date, patient outcomes. (Our analysis of the Utah reviewer log information is found in a later section of this chapter.)

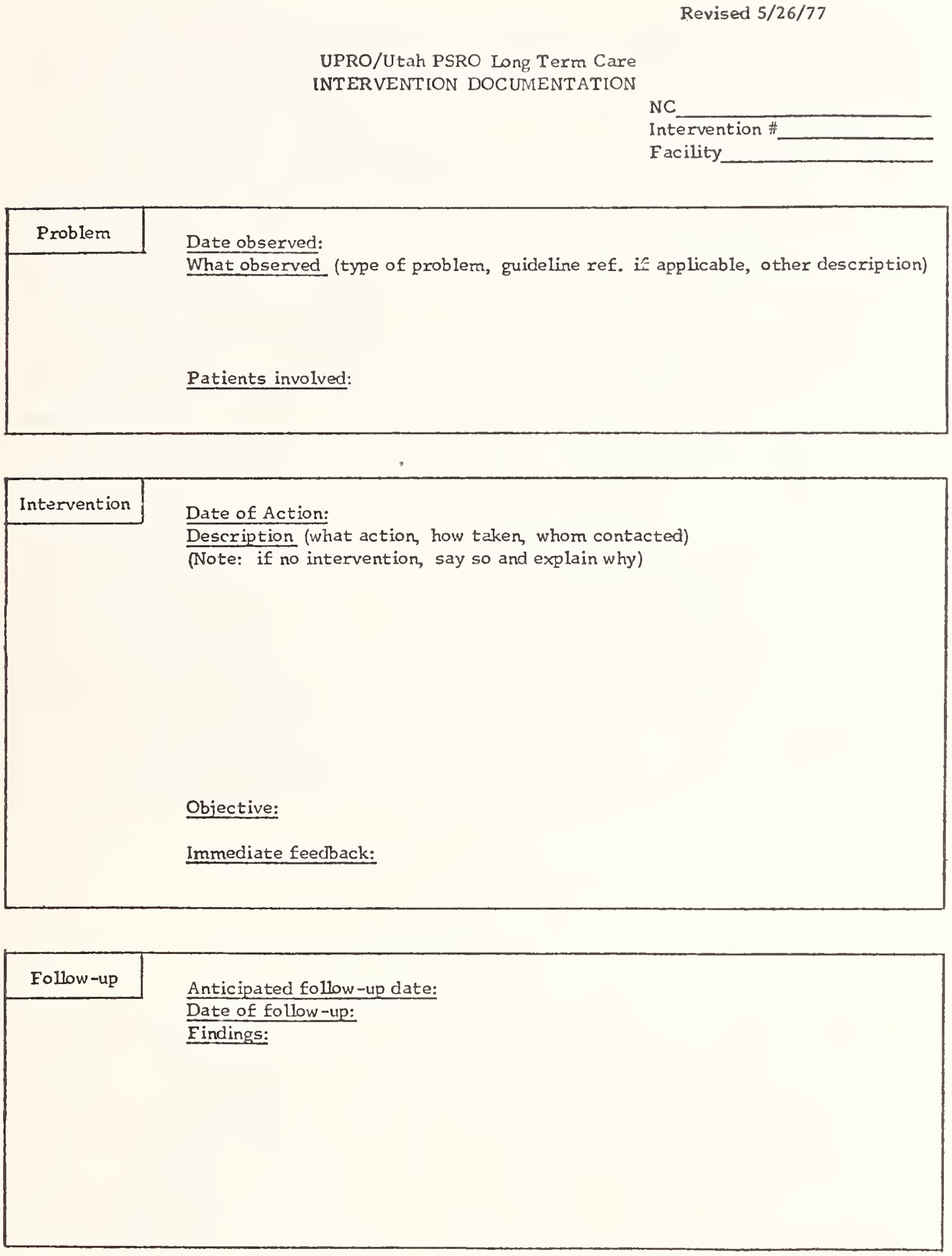
Despite the lack of a clear tracking system, PSROs have made claims for the beneficial effects of their interventions on quality of care. A few PSROs have developed the potential for moving beyond anecdotal evidence. Charles River, for example, has developed an information system to record the number of reviewer recommendations according to four categories of recommendations (see Vol. II, Chapter 3). Although this will make it possible to profile kinds and numbers of recommendations by facility and to determine changes in this volume over time, it does not directly address the problem of identifying the situations and conditions under which PSRO recommendations were accompanied by corrective action.

The Vermont PSRO has developed some methods of quantifying the responses to its interventions. Typically, Vermont interventions are documented in the minutes of the Area Utilization Review Committees (AURCs), the five regional PSRO teams of nurse and social worker with rotating physician advisors that made both utilization and quality determinations. Vermont's research agenda includes an analysis of these minutes for indications of the effects of the review process. Additionally, a form was completed for each case of non-compliance with a recommendation dealing with improving quality of care, stating the reason for the failure to act. Another source of Vermont information, amenable to profiling, was the MR/IPR forms that contained a section listing patients' needs according to categories of service and the extent to which such service needs were met. When available, the results of these Vermont studies will be relevant to questions about the impact of review; unfortunately, the findings were not ready when this report was written.

In the remainder of this chapter we discuss two different approaches to demonstrating an effect of the PSRO's review system: (1) analyses of the Utah review coordinator logs showing impact on overall quality, and (2) analysis of Baltimore's experience in attempting to upgrade quality in a single, large, and poor quality nursing home.

Utah Reviewer Logs

Review coordinators in Utah completed three cycles of review in each facility, applying the PSRO care guidelines to the patients' medical records. When the review coordinator noted exceptions to the guidelines, she recorded her interventions in a standard way, indicating the problem identified, the number of patients involved, a short description of her action, the immediate feedback received, and the findings at follow-up regarding the particular problem. (See Fig. 5.1 for an example of the intervention recording format.)



Revised 5/26/77

UPRO/Utah PSRO Long Term Care
INTERVENTION DOCUMENTATION

NC____________________
Intervention #________________
Facility__________________

Problem

Date observed:
What observed (type of problem, guideline ref. if applicable, other description)

Patients involved:

Intervention

Date of Action:
Description (what action, how taken, whom contacted)
(Note: if no intervention, say so and explain why)

Objective:

Immediate feedback:

Follow-up

Anticipated follow-up date:
Date of follow-up:
Findings:

Fig. 5.1—Utah Intervention Format

At the second site visit to assess the impact of the Utah review system, we analyzed this intervention log and categorized the kinds of interventions and their outcomes. In addition, a site visitor from Rand visited three facilities to conduct interviews regarding facility perception of the reviewers' impact to assess the extent of congruity between the log and the facilities' perceptions.

The extensive turnover of Utah PSRO staff resulted in nine different individuals within a two-year period being responsible for the nursing home review. The extent of reviewer activity ranged from one reviewer whose five interventions occurred within a single month to two reviewers who began making interventions in December 1977 and February 1978, remaining through to the conclusion of the project and making 66 and 67 interventions, respectively. Altogether, there were 212 interventions recorded in the log. Although some interventions were undertaken in behalf of a single patient, some involved a problem affecting more than one patient—e.g., lab results not present for five patients or allergies not documented for six patients. Therefore, many more than 212 patients were potentially affected by the 212 interventions recorded in the log.

As Table 5.9 shows, 43 percent of the problems identified were documentation problems and, among these, failure to note allergies clearly on the cardex figured as the predominant issue. Another common problem was the failure to document the presence of edema. Only occasionally was there a generalized documentation problem such as "charts are in disarray." The category of drug problems refers to drug overuse, drug incompatibilities, and problems of out-of-date drug orders. In this categorization system a drug problem may concern more than one misuse of a drug; likewise, a laboratory problem may involve more than one missing laboratory result. Occasionally, the reviewer questioned odd drug orders such as "penicillin PRN"; at other times facility staff used the reviewer as a resource to question

Table 5.9

KINDS OF PROBLEMS LEADING TO INTERVENTIONS BY UTAH REVIEWERS

Problem	Number	Percent
Documentation	91	43
(Allergy Documentation)	(45)	
Drug	53	25
Nursing Care	22	10
Physician Care	14	7
Lab	21	10
Diet	6	3
Other Patient Services	5	2
Total	212	100

the drug regimen. Nursing care problems were sometimes difficult to differentiate in the log from documentation problems; they included failure to perform nursing procedures such as checking weights, taking apical pulses, preparing patient care plans, ambulating patients, and so on. Physician care problems included out-of-date orders, lack of recent physical examinations, and confusion about who was medically responsible for the patient. Reviewers exhibited different patterns in identifying particular kinds of problems—e.g., most of the lack of laboratory results were identified by a single reviewer.

In almost all cases, the nurse reviewer provided feedback directly to an individual nurse. Sometimes the reviewer offered a more general in-service educational program, either on an impromptu or a more planned basis. Dieticians were less frequently involved in feedback. (In one instance, the patient was receiving added salt rather than a low sodium diet.) Occasionally the PSRO reviewer suggested that the nurse contact the physician for clarification of an order, and in a few cases, referred the situation to the PSRO physician advisor so that he could approach the physician on a peer basis.

To the extent possible, we used these logs to ascertain the outcome of the interventions. Table 5.10 shows those results.

A problem was considered corrected if the reviewer indicated that it was immediately corrected in her presence—e.g., then and there the allergy was entered on the cardex—or corrected as of the next review. As might be expected, documentation deficiencies best lent themselves to correction and were over-represented in the 50 percent of the problems resolved. Partial correction was noted if:

1. Some of the patient's problems were corrected and others were not;
2. There was more than one patient involved in the deficiency and the problem was corrected for some but not others; or

Table 5.10

OUTCOMES OF INTERVENTIONS OF UTAH REVIEWERS

Outcome	Number	Percent
Problem Corrected	101	48
Partial Correction	22	10
No Correction	27	13
General Information No Follow-up	35	16
Result Unknown (e.g., patient discharged, died, end of demo period and no subsequent entry in log)	27	13
TOTAL	212	100

3. There was evidence of awareness and effort at correction—e.g., repeated efforts on the part of the facility to get the doctor in and cessation of the practice of encouraging him to mail in reports.

The general information category was used when the intervention took the form of an in-service training, a general discussion of guidelines, an answer to a query of a facility staff member, and when the reviewer indicated that no follow-up was planned. In contrast, we coded the item "result unknown" when the patient was lost to follow-up through discharge, transfer, or death or when the deficiency was noted late in the demonstration and the reviewer did not return to note the effect of the intervention.

During onsite visits to three Utah facilities, we inquired about the review coordinators' activities. In all facilities there was congruence between the items recorded in the intervention log and those mentioned spontaneously by the facility representative interviewed, suggesting that the contacts by the reviewer at least made an impression on the recipient. Two of the three facility representatives remembered all the interventions; one of these persons had even retained notes of the reviewer's recommendations and referred to them. One gave the PSRO credit for being able to exert pressure on the physician to visit the patient and re-examine her, leading to a change in diagnosis. There was correct recall of interventions directed toward teaching nurses to take apical pulses, to document edema, and to make note of negative as well as positive findings. At one home we were told that the respondent was sure the PSRO could be given the credit for the doctor's visit to the patient because "he accidentally left his letter from the PSRO behind."

The reviewers reported that the reaction to their feedback was generally pleasant—e.g., "She thanked me for bringing it to her attention" or "She seemed shocked." Sometimes the reviewer reinforced concerns that the facility nurse herself had experienced—e.g., "She said, 'I thought that was kind of a funny order myself'" and thereby lent support to the facilities for following through to seek clarification. Nursing homes were very supportive of reviewer plans to make referrals to the physician advisors. Occasionally, there was some defensiveness expressed and some criticism of guidelines that seemed over-stringent—"It is hard to do regular weighing of a paraplegic on a standing scale."

We tried to assess the potential importance of the problems identified by the reviewers. The most serious cases included one incident of possible neglect and mismanagement leading to a fracture, and one example of "charts in complete disarray." There were a few potentially serious drug problems, including a patient receiving numerous analgesics and psychoactive drugs. Failure to note allergies was an easily correctible problem of potential significance; at times the reviewers noted that a patient was actually receiving drugs that the chart indicated he could not tolerate. One PSRO reviewer noted a 23-pound weight loss in one week—when bringing it to the staff's attention, however, it was determined that the scales were off. Both PSRO and nursing home staff agreed that the fact of PSRO review made staff more cognizant of the importance of the medical record and the need to eliminate such errors in future recording.

In all cases, except when the facility staff identified a problem for the reviewer, the reviewers' problem entries were derived from inspection of the records. Although the validity of such an assessment strategy can be questioned, when the reviewer explored chart omissions and inconsistencies, it often turned out that the service was not being delivered or that there was confusion about the regimen.

Medical record review can provide some useful unobtrusive measures. For example, one reviewer noted that physician progress notes contained envelope-like folds; this observation led to the discovery that the facility was routinely mailing blank pages to the physician's office for his completion without his having to visit the patient.

Unfortunately, it was beyond our scope to analyze the data to determine the proportion of documentation problems that clearly signified an ongoing care problem, so these comments are impressionistic. Still, such anecdotal data suggest that serious problems were identified through the medium of record review.

In summary, this analysis of the Utah intervention logs showed that there was impact in terms of quality that might be attributed to the reviewers' activity and that the reviewers' notations of outcomes achieved in the nursing homes were independently attributed to PSRO by the nursing home facilities in which they occurred.

Baltimore and an Outlier Facility

As part of its LTC review activities, the BCPSRO undertook to work intensively with a nursing home facility that would otherwise have been closed. Because the facility served a population that would be adversely affected by the closure, BCPSRO attempted a major rehabilitation effort. This case history is presented as a model of an intensive, focused effort to upgrade care at the poorer end of the nursing home spectrum.

Description of the Problem. The outlier facility is an old, 300-bed, entirely Medicaid facility located in the inner city; patients were assigned to staff physicians who were reimbursed by Medicaid. The current owner, a nurse, purchased the home six months prior to PSRO involvement.

The PSRO had been aware of quality of care problems in the facility as a result of the nursing home survey but had no authority to intervene until achieving binding Medicaid review in June 1978. At that point, serious deficiencies were noted. At about the same time, the results of the State Health Department's annual licensure survey were released and the state placed an immediate ban on new admissions to this nursing home. Problems noted to support the state's admission ban included:

- Patients with bedsores and gangrenous feet.
- Patients kept in bed because of lack of chairs.
- Inadequate supplies, linen, and equipment.
- Medications not given.
- Patients not fed or taken to the dining room when appropriate.
- Rodents.
- Lack of personal care by staff.
- Poor facility organization.

PSRO Actions. Although new admissions had been banned, the PSRO was very concerned about the quality of care given to the patients still in the facility. The PSRO officials met with the owner (also acting as Nursing Director) and the

Administrator and received a request for technical assistance from the facility. The state health department was legally responsible for monitoring the home, but lacking staff to do so and believing that the quality of care was very poor, considered closing the facility. The PSRO judged that the facility, for all its deficiencies, was home to a large group of patients and decided to put resources into upgrading the care. A three-way MOU was signed to outline responsibilities of the PSRO, the state, and the facility.

The PSRO placed three full-time nurse reviewers at the facility, the manager of LTC review on a half-time basis, and physician consultants as needed. After a month, the state rescinded the admission ban and the PSRO dropped its monitoring force to one full-time nurse and up to eight hours per week of physician consultation.

The PSRO review coordinators made bedside visits to all patients to review both LOC and quality of care. If they encountered patients who could not be treated safely in this facility, they effected transfers. (The PSRO believes a number of lives were saved in this way.) When the admission ban was lifted, the PSRO reviewed all admissions to assure that the home could meet the patients' needs. The PSRO nurses also served as consultants to the facility staff, a very time-consuming role.

The PSRO physician advisors reviewed the care ordered by selected physicians and also identified certain types of care for routine review, such as patients with decubitus ulcer, certain types of medication, and laboratory study. For instance, they discovered wholesale prescriptions of iron with no laboratory tests to confirm the diagnosis of anemia. PSRO physician advisors also offered technical assistance and consultation. In most cases, the physician advisors were well received; the few attending physicians who objected stopped working at the nursing home. The PSRO involved one of the facility's physicians in the audit committee and noticed an improvement in the quality of his progress notes after this socializing experience.

Some of the problems identified by the PSRO that resulted in immediate intervention were:

- Medication errors and omissions.
- Treatment omissions.
- Lack of patient problem follow-up.
- Inadequate medical records to the point of not knowing what was happening to the patient or what was being done to him.
- Lack of physician signatures or countersignatures for medical orders.
- Patients not fed or taken to the dining room when necessary.
- Patients dirty and barefoot.
- Severe lack of basic sanitation (e.g., roach and fly infestations).
- Procedures, policies, job descriptions, orientation programs, inservice programs, etc. not in existence or outdated.

Results. The facility owner acknowledges the PSRO's intervention as bringing about a number of positive changes:

- A director of inservice education was hired.
- A medical record technician, who circulates between the owner's three nursing homes, has been hired and records have been updated.

- A medical director was hired; most of the old physician staff left or were fired, and the facility arranged for medical coverage under contract with a local hospital.
- The pharmacist's consultation time was increased.
- Rehabilitation services were increased.
- Staffing patterns and distribution have been changed and ward clerks hired.
- An 18-bed special care unit for sicker patients has been established.
- Patients have received physicial examinations and needed laboratory work.

The PSRO continued its extensive monitoring through November 1978, past the end of the demonstration project. Although improvements were noted (as described above), the PSRO still felt care did not reach the required standard. At its meeting on November 29, the BCPSRO Long-Term Council passed the following motion:

> BCPSRO is to advise the state in writing immediately that the quality of care rendered at [the outlier facility] does not as yet meet our perception of the community standard. Staff and physician members of BCPSRO are directed to meet with DHMH to effect state action to assure that the quality of care is rendered to the patients at [the outlier facility]. If the state does not take responsible action by December 1, 1978 to assure that care on a continuing basis, BCPSRO will be forced to initiate steps to withhold certification of federal sharing funds of Medicaid patients at the facility.

This is noteworthy as an official PSRO action to decertify on a quality issue.

The state's response was to place a full-time nurse and physician in the facility and schedule a license revocation hearing for mid-February.

In December and January, both the PSRO and state monitoring continued with weekly meetings. The PSRO's time commitment dropped to one PSRO nurse three days a week and a PSRO physician consultant about one day a week. Improvements, including the arrival of the new medical director, made the situation seem hopeful. Knowing that the facility could not achieve compliance by the February 13 hearing, the state issued a "consent decree" establishing a timetable for each specific corrective action; failure to meet any deadline would be cause for an immediate hearing on licensure revocation.

At the time of our case study, the future of the outlier facility was still uncertain. The facility owner was confident that it would be able to meet the requirements of the consent decree. Should the facility fail to meet consent decree requirements, it may be placed into medical receivership. At this writing, there is a bill before the Maryland Assembly to enable such a possibility.

Comments. We have discussed this case example at considerable length because it describes the activist end of the continuum in PSRO quality assurance activities. Such activism came at a cost, both in dollars and in opportunities. A rough estimate of the costs of the program to the PSRO for a five-month period came to over $15,000 with more than $6,000 expended in the first month. This figure was reached by a calculation of reviewer and physician advisor salaries plus a proportion of the time of the PSRO LTC manager and executive director; because straight salary estimates without fringe benefits were used, the figure is an understatement. While using personnel in the outlier facility, moreover, the PSRO had to postpone or de-emphasize other program initiatives. This experience raises a basic question of PSRO strategy: the extent to which the PSRO should invest a large proportion of its review dollars in areas where care is poorest.

Interestingly, the PSRO reports that its staff experienced very high morale during the most intense phase of the upgrading activity, probably because the outlier facility actions involved staff in vigorous efforts to make a positive change. In contrast, other PSROs have sometimes noted discouragement on the part of LTC review nurses, who would relish a less passive role than monitoring in the face of observable problems.

A final issue raised by this case study involves a question of values. Some critics questioned whether a facility rendering substandard care should have been propped up by PSRO efforts. The PSRO judged that there would be psychosocial costs in relocating the patients, especially because the facility served an urban ghetto area and the wholesale transfer of patients would have removed them from a familiar neighborhood and made family visits less frequent. This example illustrates the complexity of deciding how to distinguish between quality of care and quality of life in a nursing home setting.

CONCLUSIONS

The efforts of the demonstration projects to show the effectiveness of their review activities were destined from the start to be inconclusive. As stated at the outset of the chapter, the PSROs faced numerous technical problems that interfered with attribution of causality.

In addition, it was unlikely that any of the projects could have convincingly demonstrated impact given: (1) their initial mandate that did not emphasize demonstration of effect, (2) requirements for organizational activities and program building during the two-year period that siphoned energy from the program, and (3) the voluntary nature of many of the programs, which produced an incomplete test of the PSRO package as it might have functioned under binding circumstances.

Despite these problems, some projects mounted "experiments" in review that might have been able to show more definitive effects had their designs been more carefully planned in advance. Other, nonexperimental approaches to documenting the impact of the review system fell prey to the lack of systematic follow-up of the PSRO interventions to determine their associated effects. Here the programs were in need of management information systems by which they could retrieve data about their own review systems.

In these comments, we do not imply that the projects were ineffectual. In fact, the regular monitoring by PSRO personnel probably did improve quality of care of some nursing home patients (who often receive inadequate physician care and nursing services). We suspect that in the quality domain, the PSRO's potential impact is greater for nursing home care than for hospital care. It is imperative, however, that the PSROs develop mechanisms by which they can convince critics of their effect and make internal decisions about what kind of review is likely to produce the greatest positive impact. In addition to such ongoing accountability mechanisms, there is an important place for carefully designed studies to test the effectiveness of various review approaches. (In Chapter 9, recommendations are presented that touch on these issues.)

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Chapter 6

MEDICAL CARE EVALUATION STUDIES AND SPECIAL STUDIES

In acute settings the Medical Care Evaluation (MCE) Study has been the central ingredient of PSRO quality assurance programs. This chapter discusses the experiences of the demonstration projects in adapting the MCE study method to the LTC setting. In addition, some other special studies relating to the quality of care are reviewed.

BACKGROUND ON MCE STUDIES

The MCE study has assumed a major role in quality of care assessment in the acute hospital. To fulfill its quality assurance function, each hospital has been required to perform between four and twelve diagnosis-specific MCE studies each year (depending on its annual number of admissions). An MCE study includes the following steps: (1) problems are identified that are believed to be important, frequent, and characterized by inadequate care; (2) criteria (usually process, but possibly outcome criteria) for acceptable care are formulated and standards for acceptable performance are set; (3) a retrospective audit is conducted comparing actual care with the criteria; (4) feedback is given to providers regarding their performance and educational or other activities are developed; and (5) a reaudit is performed to assure that deficiencies in quality noted in the first audit have been corrected.

Delegated hospitals tend to perform MCE studies specific to their own hospital and report the results to the areawide PSRO. The PSRO may also conduct areawide MCE studies and delegated hospitals may (but are not required to) participate in such studies for "MCE credit" if they so arrange. Problem selection and criteria development are largely determined by physicians at the individual hospital level. Because selection of a meaningful topic is an important first step to the whole MCE process, hospitals have been urged to use a systematic process in setting their MCE study priorities such as the one developed by Williamson (1978).

The MCE study is conceptualized as both a technique to improve care and a method of documenting (through the restudy) that the improvement has actually occurred. Brook and Davies-Avery (1977) have pointed out that the latter function is rendered difficult by the small sample sizes likely to be available in a given hospital for a particular diagnosis-specific problem; they conclude that for most hospitals, "It will be a statistical impossibility to document improvements in the quality of care resulting from diagnosis-specific MCEs." If this is true for the hospital setting, it may be a more aggravated problem for nursing home quality assurance programs.

APPLICATION TO LONG-TERM CARE

Each element of the MCE study process requires special translation into the long term care context. Problem selection requires more interdisciplinary input and, perhaps, an organizing framework that overcomes the limitations of diagnostic-specific categories in LTC broadens the definition of "care" to include quality of life. It is not clear, for example, what constitutes a "problem" in LTC.

The demonstrations tried various approaches in their topic selection; some sites took the position that there are so many deficiencies in LTC that topic selection could be reduced to "starting somewhere"; in contrast, Colorado used a two-stage process (described below) to zero in on MCE topics. Criteria development was also difficult. Issues arose about the desirable stringency of standards given that rather poor care was often the norm. Criteria developers also had to consider the tradeoff between ease of application to a system with generally poor records and distortions of data in choosing between simple "yes-no" criteria or criteria that used more complex branching logic.

Process measures as opposed to outcome measures were more often chosen for review criteria because: (1) the quality and level of nursing procedures were considered to have great importance in the LTC setting; (2) some outcomes (such as presence of decubiti) could well be a result of differential admitting practices and/or the quality of previous care that could not easily be controlled for rather than attributable to present care, (3) affixing clear responsibility is harder for a poor outcome than for a poor process of care; and (4) outcome data are even less likely than process data to be completely and accurately recorded in the nursing home record.

Feedback and mechanisms for the correction of deficiencies need special consideration for long-term care MCEs. Joint responsibility (e.g., physician and nursing staff) also makes it more difficult to develop remedial action programs as the assurance loop of the system. Because the length of patient stay is quite long, the particular patients who were the subjects of a study also could benefit from it if corrective processes were applied expeditiously. If the individual patient is to benefit, specific data must be available at the individual as well as the aggregated level. With this in mind, some demonstrations used concurrent review personnel (nurses) to gather MCE study data retrospectively; such personnel can provide immediate feedback to facility nurses, but unfortunately they are overqualified for the abstracting tasks of the MCE study. Other demonstrations attempted prospective MCE studies; they identified a sample and reviewed the patients at intervals, comparing their care with the PSRO criteria.

Careful thought is also needed to select the appropriate targets of feedback (facility administrators, individual physicians, medical directors, directors of nursing, social service designees) and to prepare performance data that is comprehensible to the facilities. With the small numbers of patients likely to be involved in a single MCE study from any one facility, the use of percentages as a feedback unit is often misleading. The proper degree of data aggregation is also a problem; aggregated data across many participating facilities is not very useful for instituting correctional programs in specific facilities and yet facility-specific reporting produces the problem inherent in small numbers.

Finally, LTC programs are challenged to develop useful linkages between their concurrent quality review programs and their MCE studies. It is possible that review coordinators could be more advantageously used to select MCE topics and to follow up on MCE study results. Sample selection has been a problem at some sites. Uncomfortable with asking the facility to pull cases for PSRO data abstractors (e.g., all cases of decubitus within the past six months), South Carolina is now considering using the regular reviewers to identify the sample for future MCE studies.

All of these dimensions of the problem of transferring the MCE study to the LTC setting are illustrated by a discussion of the actual MCE study experience of the ten demonstration projects.

TOPICS FOR MCE STUDIES

Except for Minneapolis, all the sites were involved in some way with MCE studies. The scope of this effort varied widely. South Carolina launched the most extensive MCE study program; the PSRO performed two MCE studies each year in each of its approximately 100 non-delegated LTC facilities and required the same number of studies from its 30 delegated homes. In contrast, the Bronx, Baltimore, and Colorado limited themselves to demonstration of one or two studies in a smaller proportion of the homes in the project. Colorado, for example, performed one study involving five homes and 182 patients. Table 6.1 shows the topics for non-delegated MCE studies as well as the number of homes and patients involved in each study. Only three sites (South Carolina, Charles River, and Utah) performed any restudies at all during the demonstration period.

Delegated MCEs

Multnomah's MCE study program was completely delegated. The UR Committees of the 13 facilities in the Multnomah area explored a wide number of topics and eight facilities completed one study (one of these homes completed two studies); none of the Multnomah MCEs was restudied. Topics either implemented or considered included medical problems, such as decubitus, fevers, and bladder infections; use of drugs; transfer of information and documentation problems; and problems in care delivery, such as use of the 3 to 11 p.m. shift or diet/between-meal nourishment.

South Carolina's delegated facilities (about 30 of 135) produced 80 delegated MCE studies on 32 separate topics. Some delegated facilities chose to use the topics and criteria developed for the non-delegated homes (e.g., decubitus, admission notes, diabetes) while other topics selected by the delegated homes included common medical problems (arteriosclerosis, hip fracture, epilepsy), drug problems (use of Schedule II narcotics; use of antibiotics), or documentation problems (death documentation, hemoglobin charting, documentation of physical therapy). Among the more unusual topics for delegated MCE studies were activity programs, feeding problems, and care of the dying patient. Eight of the South Carolina delegated MCE studies resulted in a restudy; the others reported the correctional activities that were undertaken to remedy deficiencies in letters to the PSRO.

Table 6.1

NON-DELEGATED MCE TOPICS BY NUMBER OF FACILITIES AND PATIENTS INCLUDED

MCE Topic	Site	Number of Facilities	Number of Patients	Restudy[a] During Demonstration
Admission Notes	South Carolina	56	1323	yes
Antibiotic Therapy	Bronx	2	60	no
Stroke	San Joaquin	8	47	no
Completeness of Admission Information	Vermont	46	200	no
Completeness of Physical Exams	Utah	17	284	yes
Completeness of MD Care Plan on Transfer of Patients to NHs	Charles River	23	147	yes
Congestive Heart Failure	Baltimore	24	186	no
Decubitus Ulcer	Baltimore	6	134	no
	Bronx	3	30	no
	San Joaquin	2	269	no
	South Carolina	52	400	yes
Diabetes	South Carolina	44	375	yes
Digitalis Monitoring	Utah	10	146	
Hypertension	South Carolina	10	100	no
Indwelling Catheters	South Carolina	5	unknown	yes
Patient Injuries	South Carolina	80	unknown	yes
Patterns of Physician Coverage	Charles River	17	791	no
PRN Medications	South Carolina	45	805	yes
Visual & Hearing Problems[b]	Colorado	5	182	no
Unreported Level of Care Changes	San Joaquin	23	146	no
Use of Class IV Drugs	Utah	17	125	no

[a] Restudies in South Carolina were limited to those facilities where deficiencies had been found. Restudies in Utah and Charles River took place in all participating facilities.

[b] Separate criteria sets were developed for identification of visual and hearing problems but data were collected as a single MCE study.

Non-delegated MCEs

The manner of topic selection of nondelegated MCE studies fell into one of three broad categories, (1) perceived need by the LTC committee or other responsible committee, (2) suggestions from PSRO or nursing home staff, and (3) deficiencies identified as a result of the concurrent LTC review procedures.

The LTC committees at Baltimore, Charles River, and Vermont selected the topics through a brainstorming process; informal staff input was used to identify perceived needs in the region. Bronx, South Carolina, and Utah followed a similar procedure but, additionally, requested topic suggestions from nursing home staffs, PSRO staff members, and other interested professionals. A large number of topics that surfaced in this manner concerned the transfer of information to the nursing home rather than the actual care rendered by the home itself. One might speculate that such an MCE study topic has a public relations advantage in a developing program because it is not threatening to the nursing home.

In some instances MCE topics grew directly out of the concurrent review process. San Joaquin decided upon a decubitus MCE topic after a small study identified bedsores as the most common skin problem encountered. The San Joaquin MCE study on stroke was chosen because deficiencies were noted in care of stroke patients in the concurrent review process. Its MCE study on changes in LOC was inspired by the large number of appeals that were being processed on LOC changes within facilities. Discussions at the various demonstration sites revealed that other programs were moving toward using data gathered in other review efforts for topic selection in MCE studies. In South Carolina, PSRO staff were considering the merits of developing an MCE study to highlight an observed problem; for example, reviewers had noted overuse of Lasix by a number of physicians and an MCE study on use of diuretics was proposed as a strategy to document the problem in a persuasive and tactful way.

Colorado's Retrospective Focused Review

Colorado's method of topic selection was the most systematic of all the demonstration projects. It involved a two-stage approach. The first step consisted of "broad screening" of all residents along the dimensions of 12 "screening parameters" identified by the combined efforts of PSRO staff and the criteria subcommittee of the LTC Committee. The chosen parameters (some stated positively and some negatively) were:

1. Incident reports in three months.
2. Residents moving independently (with or without devices).
3. Residents being totally fed (excluding tube feedings or IVs).
4. Residents for whom restraints are currently used.
5. Residents with catheters and/or urinary incontinence.
6. Residents with UTIs (urinary tract infections) documented by a physician in the past three months.
7. Residents with a decubitus.
8. Residents without documented dental, eye, and hearing examinations in the past year.
9. Planned group activities (i.e., activities involving two or more residents) taking place ouside the nursing home in the past three months.
10. Residents with documented psychosocial problems *and* a patient care plan related to those problems.
11. Corridors with identifying markings and patients' rooms with identification on the door.
12. Transfers and discharges within the past three months (to acute hospitals, to other nursing homes, to the community, and through death).

Descriptive statistics expressed in percentages were prepared to profile the screening data by facility.

The source for this information varied according to the parameter and included patient charts, cardex, patient care plans, infection logs, social service logs, and observation of patients and facility. A geriatric nurse practitioner generally performed the broad screening but a lesser-trained data abstractor was considered capable of the task. The screening procedure began with an interview with the facility administrator or director of nurses during which information sources were identified.

One major advantage of this procedure was its ability to generate profiles suggestive of patterns of care. For example, although poor quality of care was not inferred from a high proportion of patients with decubiti, UTIs, or need of feeding assistance, such information provided inexpensively collected indices of phenomena meriting further intensive exploration in particular homes. At the same time, problems identified across the majority of facilities were indicative of promising topics for MCE studies. The screening method has the potential for rapid and inexpensive collection of information to focus further activity.

Colorado tested the broad screen method in 12 of its smallest facilities. With the exception of the parameter on planned activities outside the home, most of the information proved retrievable. The information was then displayed as bar graphs and reviewed by the LTC criteria subcommittee to suggest topics for in-depth, focused review. Based on suggested deficiencies in the broad screening, three MCE topics were considered: (1) percent of patients with urinary tract infections documented by physicians (0 to 4 percent range of frequency in the profile of the 12 facilities screened), (2) patients with psychosocial problems and no corresponding care plan (34 to 57 percent range), and (3) patients with eye or ear examinations in the past year (1 to 9 percent and 0 to 17 percent range, respectively). The committee decided against urinary tract infections because it judged level of awareness of this problem was high and also because a topic lending itself to multidisciplinary input was desired for the first MCE study. The topic of psychosocial problems without corresponding plans was considered seriously; however, recent educational offerings on the subject in the area made the topic less pressing and the results of the broad screening on this dimension were more positive than expected.

The committee then narrowed its concern to eye and ear examinations, which the screening showed were performed at a universally low rate in all 12 facilities. It considered the topic important because of the paramount need for sensory stimulation in humans and because "confusion" in nursing home residents can be caused or aggravated by undocumented hearing or vision problems. As part of the topic selection, Colorado gave fairly detailed consideration to the kind of feedback that could be given and the educational programming that could be implemented to correct anticipated deficiencies. It was even noted that such a study could be used to bring the problems of lack of financial support for needed prostheses to the attention of the fiscal intermediaries.

CRITERIA DEVELOPMENT

Criteria for the MCE studies were the responsibility of the PSRO's LTC committee or some designated subgroup. Most of the committees included interdisciplinary input of some kind. Vermont implemented a "review and comment" process by which the facilities ratified the criteria before they became final. In Utah, the Bronx, and Baltimore the criteria development committees were composed primarily of physicians with some staff input from nurses; in the Bronx, staff members of the nursing homes involved in the studies had *ad hoc* representation on the committee.

South Carolina's non-delegated MCE effort was managed by two committees, a physician committee for about half the facilities and a multidisciplinary committee for the other half. This made possible comparisons between the two groups. For the most part, the two committees used the same criteria, following the pattern of adopting each other's work. The major divergence was on the topic of decubitus, in which case the multidisciplinary committee (including three physicians, a nurse, social worker, occupational therapist, pharmacist, physical therapist, dietician, and nursing home administrator) set somewhat stricter medical criteria than did the physician committee.

Charles River had substantial input from facility administrators, directors of nursing, and social workers on their MCE subcommittee; again, both of Charles River's studies concerned the adequacy of physician coverage and follow-up rather than technical aspects of care. Colorado performed its MCE study in five facilities and involved staff members of those specific facilities in the criteria development; the disciplines represented included nurses, physicians, geriatric nurse practitioners, an audiologist, facility director of nursing, social service designee, and occupational therapist.

Criteria sets varied considerably, in terms of both number and degree of specificity. All criteria sets that we examined, however, were simply constructed, minimizing branching logic. Standards for meeting criteria either were not set in advance or were set at 100 percent with the expectation that, during variation analysis, the committees would decide whether the degree of variation from the 100 percent standard was acceptable. The exception was the Bronx PSRO, which established "thresholds for action" for each criterion.

The desired stringency of the criteria was debated within the PSROs. Several stated the position that "idealistic" criteria were counterproductive. Utah provides an example with its intended MCE study on continuity of physician care. Initial criteria stated that each patient should have a clearly identified physician responsible for care, that the physician's name should be on the cardex and known to the charge nurse, and that the information on physician responsibility should be consistent. After data collection was begun, the PSRO decided that the initial criteria had been too strict, that a named primary care physician for each patient was an unreasonable expectation, and that the University Medical Center could serve in lieu of a named physician. The MCE study itself underwent some changes in criteria as it was being performed and was finally abandoned because its validity was in question.

The criteria for some of the MCE studies do not conform to the usual definition of criteria but more closely resemble items in an epidemiological study. For example, South Carolina's study of patient injuries included as "criteria" questions about the kind of injury (lacerations, contusions, or fractures), the time of the accident, and the place (patients' rooms, hall, dining room). The information collected in this way became very difficult to analyze through usual MCE study methods because no prior decisions had been made about whether accidents should be more frequent on various shifts and in various places or whether they should be distributed randomly.

Several other PSROs considered that the MCE study in the nursing home should be employed to gather epidemiological data—for example, Vermont's committee is currently, in the post-demonstration phase, planning a study on behavioral problems that will describe the prevalence and nature of these problems. Such studies may assist PSROs in amassing information needed for quality assurance planning, but they might be more effective in achieving this epidemiological purpose if they were more clearly distinguished from the traditional MCE study.

SAMPLING FRAME

Typically, the samples included all the patients within a facility with a given problem (e.g., decubitus, diabetes). Even with this kind of inclusiveness, studies were often performed with samples of less than ten or even less than five cases per facility. Studies on delivery or administrative topics such as admission notes or physician coverage generally sampled either the last admissions up to a desired number or a proportion of the year's admissions; these topics lent themselves to generating a larger sample than a disease-specific topic. Even then, problems of small numbers remained. Colorado's MCE study on vision and hearing examinations was to include patients who had been in the facility for a year or less and was to equal 25 patients or 50 percent of the residents, whichever was greater. In actuality, the abstractors were required to include patients who were in the facility for two years or less to get respectable numbers and still failed to obtain the 50 percent study population. Instead of a projected 218 abstracts, the final sample was 182.

The question of small numbers comes back to haunt the PSRO in the analysis stage. For example, an initial study might show that, for ten cases of decubitus, there was a failure to meet care criteria in five cases (a 50 percent compliance score). On restudy, there might be only a single case and it might meet all criteria (100 percent compliance). With such tiny numbers, it is difficult to decide whether to interpret the finding as an improvement in the quality of care for decubitus. However, aggregation of the information across facilities masks relevant information about facility performance on which to base corrective actions.

A related question is the means of identifying cases for study. South Carolina asked the facilities to pull the records of all cases with the particular problem (diabetes, decubitus, hypertension) prior to the visit of the data abstractor. Instructions to pull charts for "the last 25 admissions" or "the incident reports of the last six months" are probably less prone to error than disease-specific retrieval. An alternative strategy would utilize review coordinators to identify the sample. The typical hospital procedure, which involves asking facilities to gather records, may be less appropriate to nursing homes, which usually lack record librarians and clear indexing procedures.

DATA COLLECTION

Data collection was usually performed by PSRO staff, either the review coordinators or data abstractors. In South Carolina, all data were abstracted by record technicians. In Vermont the review nurses did the abstraction. Colorado used a mixed method; data abstractors did the chart review while the geriatric nurse practitioners validated a subsample of the data by bedside review. The Bronx used the pharmacist in the LTC facilities to perform some of the abstraction tasks for its antibiotic therapy MCE study. (In contrast, Colorado performed a special drug study, discussed below, and deliberately used minimally trained data abstractors to gather the information.) In general, the preference was to develop clear criteria and use lesser-trained personnel for data collection in the interests of spending less money.

A related question concerns the extent to which facility personnel should be involved in data abstraction. Some PSROs took the position that the best procedure is to engage facility personnel in gathering information for the educational value this procedure affords. For example, Colorado's final report indicates that a preferred procedure would have been facility collection of the hearing and eye examination data, which would have familiarized facility staff with tuning fork and Snellen tests. Others maintain that, given the poor quality of records and the tedious nature of record abstraction, it is better to gather data with PSRO abstractors who are trained for the job and to use more direct educational approaches to upgrade facility personnel.

FEEDBACK

In the case of delegated facilities, the PSROs required that the nursing home submit a report of the MCE study including the corrective actions taken. For all the areawide studies, the PSRO planned corrective action. The usual procedure entailed analysis of the exceptions by the responsible committee followed by a letter to the facilities describing the findings. Facility-specific and areawide results were usually displayed; an exception was South Carolina, which did not aggregate the results across facilities but treated each as a separate study.

The Colorado MCE subcommittee took great pains with the feedback, using a group meeting for data interpretation. In the case of the vision and hearing study, results were described at a meeting of representatives of participating facilities. For its drug study, results were discussed at a meeting of all medical directors.

South Carolina employed a somewhat different procedure, requiring each facility to present the findings to the facility's Utilization Review Committee and then respond in writing with its plan of action. These responses were generally positive and noncommittal. A perusal of a series of letters showed that some facilities took issue with the criteria and/or the findings; others indicated that they had introduced new procedures and even new equipment to remedy deficiencies. Some responses were missing; the PSRO did not follow up to insist on a reply from the facility.

In an effort to remedy deficiencies discovered in its MCE study on physical examinations, Utah tried a structural approach. A new physical examination form was developed by the PSRO for distribution by the Health Care Association.

RESTUDY

Restudies generally did not occur within the demonstration time period. The lack of restudy did not result from a high quality of care on the initial studies; on the contrary, except for a few specific nursing homes in South Carolina, deficiencies justifying a restudy were present in almost all MCEs. Presumably restudies have occurred after the period we are concerned with in this report. During the demonstration, restudies were limited to one each in Utah and Charles River and the series of South Carolina studies. South Carolina scheduled restudies on a facility-specific timetable approximately six months after the initial study, with some fluctuation in either direction depending on the seriousness of the deficiencies. In contrast, Utah and Charles River performed areawide restudies and when aggregate results showed deficiencies, they restudied all participating facilities. Summarizing the restudy findings, it was possible to show some improvement in adherence to criteria upon restudy, although results are generally mixed. In addition, the previously mentioned problem of small sample size limits interpretation about impact, particularly on a facility-specific basis. (See a later section of this chapter for South Carolina MCE findings.)

South Carolina's procedures on restudy (combined with its facility-specific unit of analysis) further complicated consideration of impact. In South Carolina, only criteria not met in the initial study were restudied. For example, if there were ten criteria and all but two were met, only those two criteria were restudied. This sharply reduced the likelihood that a facility would decline in performance between Time 1 and Time 2.

Vermont PSRO took a creative approach in examining the impact of its MCE study on the completeness of admission information. An MCE study using 28 criteria for admission information was combined with an investigation of the relationship between the adequacy of that admission information and the patient's satisfaction in the months after admission. The latter information was gathered by nurse or social work reviewers using a six-question instrument; the questions probed the extent to which the patient felt prepared for, consulted about, and satisfied with the decision to enter the nursing home and the extent to which he felt the nursing home staff were knowledgeable about his medical problems and interested in his social adjustment.

Preliminary analysis of these data (Vermont PSRO, 1979) indicated a correlation between compliance with some of the 28 documentation criteria and satisfaction on some of the six satisfaction items. (Of 168 possible correlations, 35 proved statistically significant at the .05 level.) Simple summed scores for compliance with documentation and for patient satisfaction were correlated. Scientific questions might be raised about the methodology (including the creation of cumulative scores) and the interpretation of the findings. It is both premature and beyond our scope to critique the work from a technical point of view. Its importance for the present review lies in its creative linkage of an MCE study on documentation and a larger question of quality. VPSRO has not yet initiated a restudy of the MCE. Especially if the more detailed analysis of the satisfaction data supports the association between admission information and overall patient satisfaction, it will then be important to assess whether the quality of documentation improves.

COMPARISON OF FIVE STUDIES ON DECUBITUS

During the demonstrations, studies of decubitus were performed by Baltimore, Bronx, San Joaquin, South Carolina LTC Committee (physicians), and South Carolina Multidisciplinary Committee. The five decubitus studies are compared to illustrate our previous discussion.

All sites except San Joaquin selected patients already known to have decubitus. South Carolina selected all patients in the participating homes with decubitus in the past six months; the Bronx selected all patients with decubitus Grade II and III. Baltimore differentiated three groups for study (decubitus patients in the home prior to January 1 with sores, patients admitted with sores after January 1, and patients admitted after January 1 who later developed sores in the nursing home). San Joaquin, in contrast, studied all Medicare patients admitted within a three-month period, whether or not they were known to have decubitus, because it was interested in establishing the incidence of the problem.

The Bronx and South Carolina made their observations at a single point in time; in contrast, Baltimore performed a prospective study using review coordinators to make a series of monthly observations, pick up new cases, and note the disposition of old cases. San Joaquin reviewed the patients at admission and at each continued stay review. South Carolina was the only site that employed data abstractors rather than review nurses to collect the information.

Criteria

The criteria for the decubiti studies illustrate the diversity and limitations of the criteria across all the MCE studies performed by the demonstrations. The number of criteria varied from six for the Bronx to 27 for Baltimore. Only South Carolina's two sets and those of the Bronx were composed entirely of performance criteria. The Bronx's criteria were established with "thresholds for action" standards varying from 100 percent to 50 percent compliance; South Carolina, as mentioned earlier, used a 100 percent standard. The criteria for Baltimore and San Joaquin included many information questions about the condition rather than criteria for its care. For example, Baltimore collected answers to a number of questions at several points in time about bladder status, continence, and presence of catheters or ostomies, but did not produce criteria for catheter care or care of the incontinent that could minimize decubiti. In contrast, the Bronx established a single criterion, "management of incontinence," which is not further explicated.

The sites differed regarding their requirement for the facility's notation and description of the decubitus. Baltimore's protocol called for a description of each sore by location, width, and depth. The Bronx established as one of its care criteria a reduction in size and depth of the decubitus (85 percent compliance was the threshold below which action would be taken). The Bronx also requested documentation of early signs such as swelling and redness. San Joaquin required a description of the tissue, the color, amount and odor of drainage, and size (length, width and depth). It also required regular documentation of ulcer status by a physician, including a discharge description of the pressure sore. The South Carolina multidisciplinary committee required physician documentation of the ulcer status after three months.

Three of the criteria sets touched on nutrition. The South Carolina LTC committee required a dietician evaluation monthly, the South Carolina multidisciplinary committee required a food service supervisor evaluation monthly, and Baltimore's data abstractors noted whether the patient was "well-nourished" or not. Baltimore, Bronx, and San Joaquin collected information about primary diagnosis and the Bronx additionally required "management of concomitant contributory conditions" such as diabetes, anemia, and obesity. South Carolina, for both sets of criteria, listed osteomyelitis, deep abscess, and septicemia as complications that should never occur.

Criteria for actual treatment varied also. San Joaquin and Baltimore required plans for decubitus treatment. Baltimore also required physician/facility protocols for standing orders. Baltimore and the Bronx had general criteria for patient position changes while South Carolina's Multidisciplinary Committee required that the patient be turned every two hours (8 a.m. to 8 p.m.) and the physician committee required that this turning be done when the patient was awake. The South Carolina physician committee mandated a renal examination (BUN or creatinine) every six months, a criterion that met with considerable disagreement from facilities. South Carolina's LTC committee established a criterion for whirlpool baths that proved impractical in facilities having no access to such equipment. Baltimore's criteria included a list of treatments (systemic antibiotics, topical antibiotics, enzyme debridement, surgical debridement, surgical repair, etc.); clearly a facility would not be expected to use all the listed treatments because one often precludes the other, but no further directions were provided.

In summary, the criteria for the decubitus MCE studies were a mixture of data collection about incidence and prevalence together with a smaller number of performance criteria. The latter were often not well specified and did not exhibit very much commonality across sites. These criteria illustrate the unsophisticated nature of the care criteria developed for the MCE studies performed by the demonstrations.

Findings and Feedback

Some studies produced a great deal of information about the incidence and prevalence of various types of decubiti in nursing homes. Baltimore analyzed the information by sample group, discovering that there were 134 patients in-house with decubiti when the study began (10 percent of the population). Of these, 20 percent developed additional pressure sores during the six months of the study. Of the 476 patients admitted to study facilities during this six months, 99 (21 percent) had decubitus and 11 of these developed additional sores during the six months. Of the 99 newly admitted decubitus patients, 35 had healed (four of these patients died) and 64 had not healed (41 of these patients died).

From all this information, Baltimore identified risk factors for development of decubiti and promulgated them to all acute hospitals and LTC facilities along with the study results and some guidelines for decubitus prevention and/or treatment. The PSRO planned a voluntary (post-demonstration) prospective pressure sore audit on an areawide basis, planned to utilize a small number of criteria and involve facility personnel in data collection.

The Bronx decubitus study was limited to three facilities. In each facility studied, substantial deviation from the criteria was noted. Each facility received a letter with the facility-specific and areawide results of the study and was requested to reply with a written plan of action.

South Carolina's decubitus studies were tabulated by facility only and a similar procedure of mailing results to the facilities and requesting a response was followed. Except for a few facilities without deficiencies, the vast majority of homes required a restudy. Restudies were performed only for the deficient criteria, which tended to be in the area of food service evaluations and renal evaluations. Although few facilities met the 100 percent standard on such criteria as whirlpool baths, hot soaks, and turning the patient every two hours, the deficiencies were often viewed as justifiable variations. A later section of this chapter discussing the total South Carolina MCE study effort shows the amount of change on restudy; in summary, some improvements were noted, although they tended to be rather slight.

San Joaquin's study included 269 admissions, 42 of whom had been admitted with decubitus. During the three months that this cohort was studied, six new cases of decubitus developed (representing an incidence of 2.6 percent per three months) and six existing cases became worse. Applying their care criteria, reviewers determined that two of the new cases and four of the exacerbated cases involved deficiencies in care. In other words, there were deficiencies in the care of existing decubitus in almost 10 percent of the cases and deficiencies in preventive care in one-third of the cases that developed decubiti after admission.

Complete interpretation of the findings is difficult because no norms are available for the expected incidence of new decubitus cases in nursing home residents. The actual incidence found in San Joaquin's study (2.6 percent) would seemingly have been reduced to about 1.8 percent with adequate preventive care. San Joaquin's division between new and existing cases is useful. More such studies might help establish norms for various conditions. San Joaquin's approach to feedback included dissemination of the findings with a list of "dos and don'ts" of decubitus care. No restudy was performed during the demonstration period.

The choice of decubitus as an MCE study topic at four sites (as well as the emphasis on decubitus in concurrent quality assurance activities) is somewhat inconsistent with the low priority that participants at the Rand conference gave to decubitus as a problem in nursing home care on which the PSRO might be expected to make an impact (see App. A). Probably the initial concentration on decubitus is attributable to the attention that bedsores have received in the popular press and their clear association with poor care. In fact, the MCE studies collectively showed very few decubiti that were attributed in the variation analysis to poor care. Perhaps the lower ranking of decubitus as an important problem amenable to PSRO impact at the Rand conference was because the experience of the demonstration projects had shown that preventable decubiti or decubiti exacerbated because of poor care were not as common as popularly believed.

CASE EXAMPLES

We now turn to three specific examples of MCE studies and special studies:

1. Charles River MCE studies on adequacy of physician transfer information and on physician coverage in SNFs are presented as examples of MCE studies that treat the LTC delivery system and the behavior of physicians.
2. The Colorado drug utilization study is presented as an example of a comprehensive approach to studying drug utilization across all the demonstrations; and
3. The South Carolina MCE program as a whole is discussed to illustrate the experience of a PSRO that emphasized the conduct of MCE studies.

The chapter concludes with a discussion of Vermont's series of special studies on identification of dischargeable patients and facilitation of their return to the community.

Charles River: Adequacy of Physician Transfer Information

Charles River PSRO performed an areawide MCE on "The Completeness of the Physician's Plan of Care on Transfer of a Patient to a Participating Nursing Home" in 1977 and repeated it in 1978. This study and restudy are illustrative of one PSRO's attempt to measure impacts and base program activities on the findings.

Topic Selection. The topic for the MCE study was selected by the LTC Committee, a multidisciplinary committee composed (in addition to PSRO staff) of three physicians who had prior experience on UR committees in SNFs, three facility directors of nursing, one nursing home administrator, one social worker, and one hospital review coordinator. This administrative type of MCE topic was chosen for several reasons: The PSRO viewed acute and LTC review as an integrated system and hoped this choice of topic would enhance cooperation between the two levels of care. Also, voluntary facility participation meant that the PSRO had to be cautious not to offend the nursing homes lest they drop out of the project. Because this topic could be expected to help solve problems for the nursing homes, it elicited their cooperation.

Criteria and Study Design. All newly admitted patients or patients transferred back to a nursing home within a three-month time period (April 1 through June 30, 1977) constituted the sample. The criteria and study design were developed by the PSRO staff and approved by the LTC Committee. The criteria were:

1. Receipt of a hospital discharge summary within one week of the patient's arrival at the nursing home.
2. PSRO agreement with the recommended level of care.
3. Signature of referring physician, indicating whether he would follow the patient and, if not, name of physician who would follow the patient.
4. Completeness of the plan of care relating to the patient's functional activities and diet.
5. Written statements outlining short- and long-term goals.

Explicit directions for abstraction with specific examples were developed together with the criteria. For instance, "ADL Activities" was listed as one item of Physician's Plan of Care. If there were any reference to a patient's activity, regardless of how limited, the item was recorded as "yes." The quality of the physician's order was not considered. Abstraction was performed by PSRO coordinators in order to generate more accurate information.

Results and Recommendations. Abstracts were obtained on 147 patients admitted to LTC facilities from Charles River hospitals, other hospitals, other nursing homes, and the patients' own homes. The baseline findings relating to the 104 cases admitted from hospitals in the PSRO area are shown in the first column of Table 6.2. Deficiencies were found in all criteria and were particularly marked around specification of long- and short-term goals and clarity about which physician would care for the patient in the nursing home. Lack of timely discharge summaries was also a serious deficiency.

Table 6.2

PERCENT OF PATIENTS COMPLYING WITH CRITERIA OF CHARLES RIVER MCE STUDY DURING INITIAL STUDY AND RESTUDY PHASES

Criteria	Percent of Patients 1977 (Study) N = 104	 1978 (Restudy) N = 271	 Change %
Discharge summaries received by nursing homes	71	72.3	+ 1.3[a]
PSRO LOC decisions agree with MD's referral	63.3	81.2	+17.9
M.D. signatures	98.0	98.9	+0.9
M.D. will follow patient	44.2	57.9	+13.7
If no, M.D. responsible for patient is named	25.8	49.1	+23.3
Medications relate to diagnosis	69.2	76.4	+ 7.2
ADL specified	39.4	71.9	+32.5
Diet specified	75.9	88.6	+12.7
Short term goals	13.4	37.6	+24.2
Long term goals	38.4	50.2	+11.8

SOURCE: Adapted from Charles River PSRO Demonstration Final Report, 1979.

[a] This slight improvement is an aggregate figure. Certain CRPSRO hospitals showed marked improvement (the range was from 2 to 32 percent); others showed a marked decrease (the range was from 11 to 21 percent).

The results of the MCE study were shared with participating Charles River hospitals and nursing homes. Hospitals were asked to process the study through their usual audit channels of UR Committee and Executive Committee of Staff and Trustee Governing Boards. In addition, the results of the study were sent to attending staff physicians.

The PSRO also discussed with the hospital review coordinators their role in monitoring the completeness of the physicians' plan of care and in determining appropriate nursing home level of care as certified by the physician prior to the patient's transfer to a nursing home.

Restudy. A restudy using the same criteria, design, and methods as the 1977 study was performed in 1978. The 1978 study included 458 patients, 271 from Charles River area hospitals; this increase was due to the phase-in schedule of the PSRO, which, by this point, had phased all LTC facilities into its LTC program. Table 6.2 presents a comparison of changes in practices over time for the patients hospitalized in the Charles River area.

Despite all its efforts at disseminating the results of the original study and education of health personnel, the Charles River PSRO staff were chagrined to find only a slight improvement (1.3 percent) in the number of discharge summaries received by nursing homes within a week following discharge. Individual tabulations by hospital indicated that certain hospitals showed marked improvement while others showed a marked decrease. Therefore, the PSRO now plans to intensify its feedback efforts toward its deficient hospitals while maintaining its usual feedback techniques to all facilities. Overall performance on many of the other criteria improved substantially, yet serious deficiencies remained. The PSRO plans for correction included a wide dissemination of study results including individual letters to all member physicians pointing out their responsibilities. It also planned to work with LTC facilities, assisting them to become more assertive in requesting discharge summaries.

Charles River: Physician Coverage MCE

The MCE study on the adequacy of transfer information had shown that 55 percent of the physicians referring patients to Charles River nursing homes did not serve as attending physician on admission. This finding was the direct stimulus for another study on the patterns of physician coverage in skilled LTC facilities.

Method. The physician coverage study differed from a conventional MCE study in that it took an information-gathering approach and did not involve criteria for physician coverage. During a single month in 1978, information was abstracted on 100 percent of Medicare, Medicaid, and private pay SNF patients in the Charles River PSRO area (with the exception of private pay patients in one facility that would not permit the data collection for its private patients). Variables for the study included length of time elapsed since admission, payment source, source of original referral, and the name and medical specialty of (1) the referring physician, (2) the attending physician at the time of the patient's admission to the nursing home, and (3) the attending physician on the date of data abstraction. The study included 791 SNF patients.

Findings. The median length of stay (prior to the study) for SNF patients was 1½ to 2 years. Charles River had a high proportion of private pay patients (42 percent) and, to the PSRO's surprise, 21 percent of the private pay patients had been in the nursing home three years or more. Only 13 SNF patients from the entire 791 were Medicare patients on the day of abstraction, and 56 percent were Medicaid patients. The average time in the nursing home for Medicaid patients was 2 to 3 years, a much higher figure than was commonly believed before the study. Another unexpected finding was that 15 percent of the total group had lengths of stay of five years or over.

There were 417 referring physicians who had originally referred the 791 patients for SNF care. On the day of their admission, 127 physicians were caring for all and 47 for some of the patients they had referred, and the total number of physicians involved in care of the sample had dropped to 210. On the day of data abstraction, 136 of the 210 physicians who had been attending patients on their admission were still attending all or some of their patients and a total of 160 physicians were involved in the care of the 791 patients.

It was recognized that much of the transition of care upon admission could have been accounted for by patients referred to Charles River nursing homes from other geographic areas. Specialists in internal medicine or family practice were more likely to be following their original patients than other specialists, and among the former, general internal medicine specialists were more likely to follow the patients than were subspecialists.

One of the more interesting findings is the breakdown of the 160 physicians attending patients in skilled nursing homes on the day of data abstraction according to the number of such patients each physician carried. The majority cared for only a few nursing home patients; 36 percent cared for one patient only, 73 percent cared for five or fewer patients, and only 10 percent cared for more than ten patients. The highest patient load of one physician was 35 nursing home patients, all in a single facility. Sixty-four percent of the physicians attended patients located in just one home and only 15 percent of the physicians had to visit more than two homes to care for his/her patients.

Implications. The Charles River MCE study on physician coverage provided a very useful baseline of information for the PSRO and the community. Conventional wisdom was refuted in some instances. For example, the often repeated figure that 90 percent of nursing home patients are cared for by 10 percent of physicians was simply not true in terms of Charles River SNFs. This has implications for PSRO decisions about the targeting of educational efforts. The common physician complaint about the difficulty in visiting patients scattered around numerous nursing homes also was not supported by the data. The study also highlighted the need for continuity of information on admission. Only 174 of 417 physicians in the study provided continuing care for their patients after admission and 28 percent of physicians who had been caring for patients on admission had discontinued by the day of the study. Finally, the unexpectedly high average length of time elapsed since admission for Medicaid SNF patients (2 to 3 years with 15 percent of the patients having been admitted five years or more before the study) refuted popular wisdom in the Charles River PSRO area and highlighted the fact that some subset of the SNF population has a very long length of stay and would be expected to need periodic medical re-evaluation.

This MCE study on physician coverage is an example of one way that a PSRO demonstration project addressed the component of physician care to nursing home patients. Although the study did not directly assess the quality of care itself, the data it generated were relevant to quality assurance programs and suggested some of the challenges ahead in ensuring continuity of high quality physician care given the turnover of responsible physicians. The Charles River PSRO's findings cannot be generalized to other PSRO areas (Charles River serves a suburban middle-class community). It is probably useful for each PSRO to discover the patterns of length of stay and physician coverage that are idiosyncratic to its own area. Finally, the fact that private patients were included in the study suggests that the PSRO had won a high degree of acceptance in the area.

Colorado: Drug Utilization Review System

Colorado PSRO is the only demonstration site that performed a major review of a cross-section of drugs used in its facilities, although MCEs for specific drugs were performed at other sites. Its objective was to identify gross discrepancies in drug use. This study is noteworthy for its comprehensive approach and its multidisciplinary focus.

Criteria. A subcommittee of the PSRO Health Care Standards Committee, composed of pharmacists and physicians, developed explicit measurable criteria.

These criteria addressed 22 drug categories and contained 82 criteria questions. An illustration of one of the drug categories, "tranquilizers and sedatives," as revised at the end of the study is shown in Table 6.3.

Sample and Methodology. Data were collected at ten of the largest facilities over a six-month period of time. Approximately 30 percent of Medicare and Medicaid patients' drug regimens were reviewed, resulting in 553 cases abstracted (equal random samples of SNF and ICF patients were chosen). Data were collected at each facility twice a month.

Colorado PSRO was satisfied that abstractors without clinical experience could collect the drug data because the criteria were specific and the instructions were complete. The PSRO's Health Care Data Analysis department was responsible for developing facility and physician data displays. Facility-specific displays included: (1) the total number and percent of abstracts completed at each facility and the numbers of criteria questions "not met" over the total criteria, (2) a comparative display showing criteria "not met" for each facility, (3) a summary display of criteria "always met" and criteria questions "never used," and (4) a summary of drug usage patterns by facility. Physician-specific displays depicted: (1) the total numbers and percent of abstracts completed and the criteria "met" over the total criteria applied, (2) a comparative display showing criteria "not met" for each

Table 6.3

CRITERIA FOR USE OF TRANQUILIZERS AND SEDATIVES
IN COLORADO NURSING HOMES

Variation for Analysis	Rationale
1. Three or more tranquilizers or sedatives ordered in combination with the exception of oral Compazine.	Inappropriate utilization of the medications.
2. Duration of Phenothiazines for twelve months or more without a CBC or Biochemical Survey every twelve months.	The purpose of this question is to assure an annual review by a physician for residents on long term Phenothiazine therapy.
3. PRN orders on Phenothiazines with the exception of oral Compazine.	Inappropriate utilization of the medication. A therapeutic level cannot be reached over a short period of time.
4. Valium dosage exceeding 60 mgs in a seven-day period.	This is inappropriate utilization of Valium due to the extended half life of the drug in the geriatric patient.
5. Placidyl ordered.	This medication may cause adverse side effects.
6. Doriden ordered.	This medication may cause adverse side effects.

SOURCE: Colorado PSRO Demonstration Final Report, 1979.

physician, and (3) a summary of drug usage patterns by physician. The displays were prepared every two months and were cumulative to the end of the six-month period.

Data Analysis. Two review committees were responsible for two levels of review. The first level, the Drug Utilization Review Team, was composed of a pharmacist, physician, and nurse practitioner. This team distinguished between justifiable variations and unjustifiable variations requiring further study. When appropriate, the team implemented the first stage of constructive action, usually notification of the facility and/or physician and referral of the variation to the second level of review. The Drug Utilization Review Team also identified criteria in need of revision.

The team responsible for second level review, the Drug Review Committee, was composed of two physicians, two pharmacists, and a nurse practitioner. (The PSRO later recommended that a facility nurse be included on this committee.) This committee made final determinations of justifiable variations and implemented a constructive plan for identified deficiencies.

The Drug Utilization Review Team met six times and the Drug Review Committee met five times during the study period. Colorado concluded that the two-level review was appropriate for drug review; the former group served as a working team and the larger group as a more broadly based review body for final decisions.

The drug utilization study was intended to be performed on a 30 percent stratified sample of Medicare and Medicaid patients. Overall, 553 charts were abstracted. Of 5077 criteria applied, 1256 were not met for a mean deficiency rate of 25 percent. Unfortunately, because rates of deficiencies for specific criteria are shown only for those facilities or physicians that had one or more deficiencies, the data do not permit more precise analysis. Table 6.4 provides a crude rank ordering of those criteria most often deficient among those facilities with one or more deficiencies for that criterion. The majority of deficiencies seem to be due to not documenting the need for the drug or evidence of its effect. Two of the 12 most frequent deficiencies suggest misuse of tranquilizers and sedatives.

Constructive Action. Constructive action consisted of a communication to the medical director of the facility from the physician chairman of the Drug Review Committee identifying deficient areas. The facility medical director was requested to respond in writing with a constructive action plan. As an alternative, the facility medical director could request that the Drug Review Committee design and implement a constructive action plan. Constructive action was focused on facility deficiencies, not physician deficiencies.

Deficiencies were divided into general patterns of inappropriate practice by physician and specific deficiencies found in the case of individual patients. All ten facilities participating in the drug study showed general patterns of inappropriate practice for patients on diuretics in terms of weight and blood pressure checks and electrolyte measures. Appropriate practices were also noted, e.g., no resident was given more than three diuretic tablets per day.

Five medical directors representing seven facilities responded to the physician-specific feedback with written constructive action plans. Plans included the altering of nursing policy/procedures to include weekly blood pressure checks and weights for residents on diuretics; communication of deficient areas to nursing home ad-

Table 6.4

RANK ORDER OF COLORADO DRUG UTILIZATION CRITERIA SHOWING MOST DEFICIENCIES ACROSS TEN FACILITIES[a]

	Deficiency Rate	
	%	No.
Dalmane ordered for 3 months of continued treatment	98.5	(64/ 65)[b]
Hematinics prescribed and no stool for occult blood taken	95.5	(21/ 22)
Hematinics prescribed and no urinalysis done	95.0	(19/ 20)
Diuretics prescribed and weekly weight not done	94.4	(152/161)
Urinary antiseptic prescribed without initial urinalysis	91.7	(11/ 12)
Duration of phenathiazines 6 months or more	89.6	(69/ 77)
Urinary antiseptic prescribed and no urine pH in last month	87.0	(20/ 23)
One or more antiarthritics combined with ASA	78.6	(33/ 42)
Diuretics prescribed and no weekly blood pressure	67.7	(111/164)
Antihypertensives prescribed and no weekly blood pressure	66.3	(139/203)
Hematinics prescribed without initial Hgb and Hct or CBC	65.0	(13/ 20)
Diuretics prescribed and no electrolytes ordered in last 90 days	64.6	(104/161)

SOURCE: Constructed from data contained in the Colorado PSRO Demonstration Final Report.

[a] Criteria with less than 10 cases not included.

[b] Numbers cover only those facilities with one or more deficiencies (number of deficiencies/number of cases appropriate for review).

ministration for their action; medical director's review of residents on diuretics with follow-up memo to attending physicians; facility pharmacist to review patients on diuretics and to request nurses to contact attending physician to order electrolyte studies.

Specific deficiencies found in the drug management at the individual patient level were also communicated to the facilities. Examples of recommendations to correct were review of a PRN order for Mellaril or the re-evaluation of the combined use of Sinequan and Ser-Ap-Es. In the constructive action letter it was suggested that the LTC Utilization Review Committee would be the appropriate group to review the medical records containing these deficiences. There were 82 individual resident charts identified to the ten facilities for their review and action. The facility medical directors were expected to respond with either a justification of the variation or a constructive action plan.

Three medical directors representing five facilities responded to the patient-specific feedback. Each stated that his home's Utilization Review Committee had reviewed individual records and made recommendations for action. After in-depth review, 15 of the 82 drug regimens were justified by the facility UR Committees. For the other 67 patients, constructive action plans addressing individual problems were submitted by the three medical directors. These took the form of suggestions to the attending physician to discontinue a medication when contraindications were revealed.

Impact. Because of the brevity of the demonstration project, no restudy was performed to measure impact. Therefore, only impressions can be described. Those who were frequently in the facilities, such as PSRO reviewers, report improved medication prescribing and monitoring. Facility medical directors report some improvement in terms of nursing procedures, but maintain that they were working with similar medication protocols before the drug study began. Facility pharmacists reported a substantial impact on all aspects of drug prescribing, administration, monitoring, and documentation after the drug study began. The facilities, however, were not so enthusiastic. During our telephone interviews of nursing home personnel, most Colorado respondents reported no change or very minimal change in drug usage attributed to the PSRO, although one nurse administrator noted that "the PSRO helped greatly through moral support of our staff when we had difficulty communicating with some of our physicians about drug prescribing."

South Carolina: MCE Study Program

One of South Carolina's demonstration objectives was the performance of two MCE studies annually in each facility in the PSRO area. This objective was largely achieved, affording us the most extensive experience to date with the conduct of MCE studies in LTC. South Carolina's MCE program also provides an opportunity to describe the potential and the limitations of the MCE study as a device to improve nursing home care.

Summarizing our earlier description of the program, South Carolina's MCE effort was conducted as follows: (1) 80 delegated initial MCEs and 8 delegated restudies were performed; (2) in 60 homes the PSRO conducted non-delegated MCE studies under the management of the physician PSRO LTC committee; and (3) in 39 additional homes in another region of the state, the PSRO conducted non-delegated MCE studies under the management of a PSRO multidisciplinary regional audit committee. These two committees were staffed by the same PSRO personnel and generally received the same staff-generated background materials, but each committee was responsible within its region for choosing topics, finalizing criteria, analyzing the results, determining whether exceptions were justified, and following through with feedback to the facilities. Through this mechanism, the PSRO tested the feasibility of a multidisciplinary audit committee for the conduct of MCE studies and, to some extent, compared the activities of the two groups. At the conclusion of the demonstration, the PSRO staff firmly endorsed the multidisciplinary committee in preference to the unidisciplinary approach, although there is little firm evidence to support the preference.

Probably as a result of the common staff work, the two committees chose the same topics for their MCE studies—decubitus, patient injuries, PRN notes, diabetes mellitus, indwelling urinary catheters, and hypertension. Decubitus is the only study for which the two committees used separate criteria. The extent of the effort is described in Table 6.1; the criteria for decubitus are also described in an earlier section. Essentially, rather simple criteria were formulated and a 100 percent standard was established for each. The patient injury study, in contrast to the others, resembled a survey in that it had a number of questions rather than criteria, although there were also criteria for both documentation and care.

Facilities were informed by letter of impending MCE studies and asked to collect the appropriate medical records in advance so that they could be abstracted by the PSRO staff. A record technician did the actual abstraction, making detailed notes about each exception so that the committees could later judge whether it was justified.

The process of variation analysis was highly individualized; the committees examined the merits of each patient-specific exception. PSRO staff suggest that the multidisciplinary committee was somewhat less lenient in its variation analyses than the physicians-only LTC committee, but no systematic study has been undertaken to support this contention. In fact, a careful content analysis of each variation decision would be required in order to understand the reasoning of each committee on decisions to depart from the 100 percent standard. Some reasons concerned lack of facility equipment—e.g., whirlpool baths—and in some instances compliance with one criterion was thought to obviate the need for compliance with another, although the criteria sets were not written in branching logic.

Criteria for the study of patient injuries turned out to be of questionable validity in many cases; failure to document the condition of the nursing home floor was a common deficiency in that study. Facilities protested on the grounds that the state of the floor was irrelevant in many cases, e.g., if the patient fell from bed or sustained a coffee burn while eating from a tray. Ironically, documentation of the condition of the floor improved on restudies, while perhaps more important activities relating to accident care were not measured at all by the criteria. For example, in scanning the detailed notes, the Rand site visitors observed that some of these accidents were potentially very frightening or anxiety-provoking to the patient, e.g., a patient who had fallen out of bed during the night was discovered on the floor in the morning. Under such conditions, documentation of the psychological state of the patient and plans to minimize subsequent psychological trauma might be more relevant to quality of care than the state of the floor. Similarly, the requirement that a physician be telephoned to notify him about each injury proved inappropriate for small cuts and the committees modified that criterion.

South Carolina's feedback procedure involved a letter to the facility enclosing a summary of the facility-specific results and variation analysis. The latter enabled facilities to reassess and modify treatment for the particular patients in the study. Facilities were expected to respond by letter with their plan of action regarding deficiencies. An approximate date for restudy was set in the same letter. In contrast to the other sites, South Carolina did not prepare an aggregated table that would permit the facilities to compare themselves with other nursing homes. Analysis and feedback was on a facility-by-facility basis. In fact, the studies did not necessarily occur simultaneously in all nursing homes; the pacing and phase-in of studies was also on a facility-specific schedule.

A problem from the perspective of a research strategy was the limitation of restudies to those criteria on which the facility had been judged deficient initially. The rationale for this procedure was the high cost of data collection. The value of the patient injury MCE was seriously compromised by this restudy policy; in that study, items such as the relative frequency of fractures, contusions, and abrasions were not restudied unless the committee had initially judged the number of injuries or injuries of a particular kind to be excessive. Consequently, there was no way to judge the meaning of an increase in total injuries during the restudy period. In other studies, the losses were not as dramatic, but failure to restudy all criteria tilted the findings in the direction of showing improvement. Criteria not restudied often did not meet the 100 percent standard but were considered legitimate exceptions; a restudy of those criteria might have helped to confirm or raise questions about the original variation analysis.

Rand Analysis of South Carolina MCE Study. The Rand team examined the South Carolina MCE study data in the aggregate to determine what statements might be made about the impact of the program. The patient injury study was dropped from consideration because, for reasons already described, it was deemed impossible to make statements about effectiveness from its results. Other studies (hypertension, PRN medications, and indwelling catheters) were not enumerated because they had not yet been performed in many facilities and there were too few restudies available on those topics. Three studies received special attention: diabetes, admission notes, and decubitus. (The latter was described above.)

Diabetes. The diabetes study was limited to ICF patients and the initial data collection included 375 patients in 44 facilities. The number of patients in each home eligible for study ranged from one to 28 with an average of 8.5.

Restudies were performed on 134 patients in 17 facilities. Table 6.5 shows the results for the initial and restudied criteria. Only the first five criteria required any restudy; at 16 facilities foot and nail care was restudied, monthly weight was restudied at 14; at seven facilities, blood sugar and AM urine were restudied; and at two facilities diabetic diet was restudied. Restudied criteria clustered within

Table 6.5

COMPARISON OF INITIAL AND RESTUDY RESULTS OF DIABETES MCE STUDY, SOUTH CAROLINA

Criteria	# homes restudied	# homes better	# homes worse
1. Monthly weight	14	14	
2. Blood sugar at least every 90 days	7	6	1
3. AM urine for sugar weekly	7	7	
4. Diabetic diet	2	1	1
5. Foot and nail care	16	14	2
6. Oral drug therapy/Insulin/Controlled by diet	0		
Complications			
7. UTIs (indicate # of catheterized patients)	0		
8. Other infections	0		
9. Eye problems	0		
10. Insulin shock, coma, or ketoacidosis	0		

facilities with the modal number per nursing home involved in a restudy being three.

In the restudies, which were based on patients both included and not included in the original MCE study, general improvement was shown, particularly on documentation criteria such as daily weight. Foot and nail care improved at 14 of 16 restudied facilities; some facilities claimed that they had previously performed foot and nail care but failed to document it. (In South Carolina's original reports to facilities, improvement was calculated in percentage of patients improving; we have used change in nursing home performance as the unit of analysis because of the small number of patients involved in each nursing home, which, in turn, leads to unstable percentage changes by patient.) In four of the 17 facilities, the overall improvement was not judged satisfactory and another restudy has been scheduled.

Nursing Admission Notes. This study was performed in 56 facilities and involved 1321 patients. The last 25 admissions were included unless the facility was very small, in which case the number of patients could drop to as low as ten. (The average number of patients per facility was 24.) Table 6.6 compares compliance with the criteria at the two points in time. For the purpose of the study, admission notes were defined to include any documentation on the patient's chart recorded within seven days of admission. For the restudy, a new cohort of recently admitted patients was utilized. Performance on the initial study was generally fairly good; at the time of our analysis, only eight restudies had been completed. Of the original 20 criteria, seven were involved in the restudies, with the most frequent deficien-

Table 6.6

COMPARISON OF INITIAL AND RESTUDY RESULTS OF ADMISSION NOTES
MCE STUDY, SOUTH CAROLINA

Criteria	# homes restudied	# homes better	# homes worse
1. Date of Admission	0		
2. Time of Admission	1	1	
3. Age	0		
4. Marital status	0		
5. Race	0		
6. Sex	0		
7. Mode & method of admission & where admitted from	3	3	
8. Mobility status	0		
9. Attending physician	0		
10. Physician notified of admission	4	1	3
11. Mental status/reaction to admission	0		
12. Vital signs	2	2	
13. Body audit (scars, bruises, hair, nails, etc.)	0		
14. Permanent physical disabilities	0		
15. Prostheses needed (teeth, limbs, glass eyes)	0		
16 Known allergies	5	3	2
17. Medication history	5	3	2
18. Eating habits	4	3	1
19. Limited social history	0		
20. Admitting diagnosis	0		

cies occurring in documentation of medication history, known allergies, and eating habits. Most restudied facilities improved their performance slightly, but there were exceptions, and some worsening of performance was also detected on four criteria. Table 6.6 is not very supportive of the effectiveness of the admission MCE study in improving the quality of admission notes. (Of the restudy results, one-third were worse than the initial results and two-thirds were better.)

Decubitus. MCEs for decubitus ulcer were performed under the purview of both the physician Long-Term Committee and the multidisciplinary Regional Audit Committee. The criteria used by each of these committees were similar. The LTC committee used three criteria that were not used by the Regional Audit Committee, i.e., whirlpool bath, heat lamp, and renal evaluation. The Regional Audit Committee's criteria required physician documentation of the ulcer status once a month, while the LTC Committee required that the ulcer status be documented after three months without designating by whom. The Regional Audit Committee criteria required monthly evaluation by a "food services supervisor," while the LTC Committee criteria required dietician evaluation monthly.

The decubitus restudies were performed in 23 of 32 facilities studied by the LTC Committee and in nine of 20 facilities studied by the Regional Audit Committee (see Table 6.7). The two criteria that most frequently showed deficiencies were "food service (dietician) evaluation monthly" and "documentation of the ulcer status." The restudies showed substantial improvement in care given to patients in both sets of facilities with the exception of dietician evaluation in the LTC Committee's facilities in which only 51 percent of 21 nursing homes improved. Presumably this is because the facilities do not have dieticians but do have the lesser-trained food service supervisors. Performance of the renal evaluations required by the LTC Committee improved greatly upon restudy.

Summary of Impact. In summary, our analysis shows that the homes restudied for decubitus and diabetes tended to improve on the criteria restudied, while the homes restudied for admission notes showed a more mixed picture. For the decubitus study, more of the multidisciplinary committee homes showed improvement than did the LTC committee homes.

Comments. The criteria for the South Carolina MCE studies were simple and therefore perhaps less than could be hoped for from explicit criteria. For example, "foot and nail care" may not be specific enough without further elaboration of the elements included in that care. Further, one wonders if the best and quickest way (if politically feasible) to monitor foot and nail care should not include observation of the patient instead of looking for its documentation in the medical record. Similarly, a BUN or creatinine evaluation once in six months does not seem relevant as and all-or-nothing criterion for decubitus care; an alternative might use a branching logic requiring its performance for some types of patients and not for others.

The entire criteria set for admission notes is extremely terse; one wonders if it is sufficient for the abstractor to seek a comment about the patient's mental status or whether more explicit criteria for such comments are needed, especially since a non-medical person was performing the abstracting. It seemed surprising, for example, that none of the seven admission note restudies thus far performed required restudy on the criteria of "mental status, reaction to admission," or "limited social history." This suggests that either nursing home admission notes in South Carolina are excellent or that the criteria and/or standards were not rigorously applied.

Table 6.7

Comparison of Initial Study and Restudy Results of Decubitus MCE Study, South Carolina

Long-term Care Committee Criteria	# homes restudied	# homes better	# homes same or worse	Multidisciplinary Audit Committee Criteria	# homes restudied	# homes better	# homes same or worse
1. Isolated soaks.	4	2	2	1. Isolated soaks.	2	2	
2. Turn every 2 hrs when awake.	6	5	1	2. Turn every 2 hrs. (8 a.m. - 8 p.m.).	5	5	
3. Body surfaces dry.	6	5	1	3. Body surfaces dry (check linen changes, dressing changes, foley leakage, loose stools, ostomies).	4	3	1
4. Ambulate.	0			4. Ambulate.	0		
6. Dietician evaluation monthly.	21	11	10	5. Topical medications. (List kind.).	1	1	
7. Documentation of ulcer status after 3 mos.	13	12	1	6. Food service supervisor evaluation monthly.	8	8	
8. Renal evaluation once in 6 mos.	16	15	1	7. Documentation of ulcer status once a month by physician.	8	8	
9. Whirlpool bath.	1	1					
10. Heat lamp.	1		1				
Complications							
11. Osteomyelitis.	0						
12. Deep abscess.	0						
13. Septicemia.	1		1				

Some improvement was noted on restudy but, as stated above, the failure to restudy all criteria (or even all criteria on which the 100 percent standard was not met) makes it hard for a nursing home to show deterioration across most of the criteria. In such circumstances, perhaps deterioration in even a single criterion upon restudy should be viewed as an indication to monitor the facility more closely.

During the demonstration project, the MCE study program was quite distinct from the regular concurrent review program and there was no opportunity to utilize information from the latter for topic selection at the beginning and for follow-up at the end. The PSRO is now strongly considering the development of linkages between these two aspects of review.

We would draw the following general conclusions from our consideration of the South Carolina MCE study program:

- It is possible to launch an extensive MCE study program in a large, dispersed area.
- A multidisciplinary group can be used to plan and conduct MCE studies.
- Epidemiological surveys are appropriate in a quality of care program, but these should not be hampered by being forced into the model of data collection and reporting (with criteria and percent of compliance) used in the MCE study.
- It is important that long-term care criteria be more explicit than the South Carolina MCE study criteria were if more precise interpretations of the results are desired. Criteria should eventually also touch more on the psychosocial aspect of care than did South Carolina's.
- Some effort to aggregate findings across facilities would be helpful to determine the importance of a problem areawide. Such aggregation quite rightly cannot be used to address facility-specific results; here South Carolina's procedures of exacting accountability from each facility are commendable. Facilities that do not respond to the deficiencies cited in their MCE study reports should be contacted by the PSRO.
- For maximum utility, an MCE program should interface with the PSRO concurrent quality review program in LTC. This would ensure better topic selection, targeting of nursing homes, and feedback of results. At times it may be appropriate to utilize reviewers doing concurrent review to identify a sample and collect data.
- It is not clear that an areawide MCE program in a large PSRO area such as South Carolina is the most appropriate investment of resources. More refinement is needed before the MCE study can be considered a disciplined tool in quality assurance.

Vermont Studies of Dischargeable Patients

As part of its demonstration project in LTC review, Vermont PSRO contracted with the Hebrew Rehabilitation Center for Aged (HRCA) in Boston to evaluate several specific research questions (see Vol. II, Chapter 10, Fig. 10.1). Some of these questions explored the extent to which a sub-population of intermediate care nursing home residents could be identified who would be suitable for community placement and subsequently placed in community care homes. VPSRO area review nurses were asked to identify Medicaid patients who, in their opinion, might have the potential for discharge to community care homes. They submitted the names of 185 individuals of a total of 1857 patients (approximately 10 percent of the patients in Vermont nursing homes under Medicaid support).

Several projects were then mounted to use this identified subsample of patients:

1. The VPSRO admission and assessment data on these patients and on a comparison group of non-dischargeable patients were used to develop a mathematical function to predict the potential of transfer to a community care home (Gutkin et al., 1979).
2. The initial roster of potentially dischargeable patients was randomized into experimental and control groups. For those patients identified as experimental, the normal PSRO utilization review was waived and intensive efforts by PSRO social workers and nursing home social work designees were undertaken to identify and implement community care placements; the control patients continued under the ordinary PSRO procedures.
3. As part of the process of developing community care home placements, a manual was developed for identifying pre- and post-discharge service strategies for each previously identified cluster of dischargeable patients (Morris, Gutkin, and Sherwood, 1979). Because of the tight timeline for the evaluation studies, the manual was not available in time for the experiment described in Item #2.

In developing the mathematical function to predict the potential for transfer to a community care home, the researchers at HRCA first screened all potential predictor variables from the admission and assessment data to find those variables that had significant associations with the reviewer's clinical judgment; those not significantly related at a level of .05 or less were discarded.

For the remaining variables, multiple regression techniques were applied. Variables in the multiple regression equation that were significant at the .05 level or lower were subjected to discriminate function analysis. The discriminate function equation was established on a test sample of approximately two-thirds of the cases. The equation—including the weights developed for each variable and the scoring system—was then applied to the remaining one-third of the data to test its predictive validity.

The results of the discriminate function analysis are shown in Table 6.8. The left hand set shows the predictive accuracy from the test sample and the right hand set the results of applying the derived equation to the remaining sample of patients. For the latter, approximately 72 percent of the classifications made by the equation agreed with the clinical judgment of the initial reviewer.

The coefficients from the discriminate function analysis were then used in a general screening instrument for identifying nursing home patients with the potential of community care discharge (Fig. 6.1). This is a statistical model and should not be interpreted clinically. The weights assigned are not necessarily those derived from clinical judgments but rather from statistical manipulations.

The value of this exercise is twofold. First, to the extent that the initial clinical judgments by the reviewers were correct, the availability of a discriminate function that can correctly classify patients as dischargeable or not with approximately 70 percent accuracy on the basis of routinely collected data offers an important screen-

Table 6.8

REPLICATION OF CLINICAL JUDGMENT REGARDING DISCHARGE OF VERMONT LEVEL II PATIENTS

(Predicted judgment based on discriminant function equation)

	Original (test) Group				Cross-Validation (retest) Group			
	Dischargeable		Nondischargeable		Dischargeable		Nondischargeable	
Actual Clinical Judgment	N	%	N	%	N	%	N	%
Has Potential for Transfer to a Community Care Home (Dischargeable)	101	93	8	7	41	80	10	20
Does Not Have Potential for Transfer to a Community Care Home (Nondischargeable)	31	30	73	70	21	36	38	64
	82% Hits				72% Hits			

SOURCE: Gutkin et al., 1979.

ing tool for identifying patients who are potentially dischargeable. However, a few caveats must be borne in mind. The evidence is not strong that the initial judgments were necessarily of high reliability or validity. No specific efforts to test inter-rater reliability were undertaken. Moreover, the analysis is based on a cross-section of patients in the nursing home rather than on new admissions. Efforts to apply the particular predictors that emerge from this study may not be successful if the proportion of new versus old admissions varies. Nonetheless, the study represents an important effort to utilize extant data to identify particular populations for whom specific services might be targeted.

As part of their effort to identify appropriate service packages for the potentially dischargeable patients, HRCA gathered more detailed data on a sample of these patients. HRCA clinical staff trained VPSRO social workers to administer to the dischargeable patients an interview schedule especially designed to tap the physical, functional, emotional, and psychosocial domains. These social workers were also asked to make a series of global judgments concerning the status of the individual patients. Because only 138 (60 percent) of the original 185 persons identified as dischargeable could be interviewed, the sample was augmented by another 30 individuals judged as having the potential for community discharge prior to the in-depth interview. In addition, a random sample of 25 patients not judged to be dischargeable at any point in time was included for contrast. This pool of 163 interviews was used to develop a cluster analysis to describe a functional typology of potentially dischargeable ICF patients in Vermont.

The survey data collected permitted grouping of the patients according to multivariant clustering procedures. The tentative groupings of different types of

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Instructions: On the basis of all available data, determine which of the responses to the seven items listed best capture the patients status. Then enter the appropriate score in the box to the right of the question.

1. Bladder Function
   Continent = - .55819
   Incontinent = - 1.11638 -

2. Mobility Level
   Goes outside facility = - .60508
   Moves about facility = - 1.21016 -
   Confined to bed or chair = - 1.81524

3. Bathing Ability
   Bathes self = - .43185 -
   Does not bathe self = - .86370

4. Takes Vasodilators
   Yes = - .65011
   No = - 1.30022 -

5. Receive Recreational Therapy
   Yes = - .69920
   No = - 1.39840 -

6. Receives Social Services
   Yes = - .49008 -
   No = - .98016

7. Time Since First LTCF Admission
   3 months or less = .06406
   4-6 months = .12812
   6-9 months = .19218
   10-12 months = .25624
   13-15 months = .32030
   16-18 months = .38436
   19-21 months = .44842
   22-24 months = .51248
   25 or more months = .57654 +

INSTRUCTIONS FOR COMPUTING INSTRUMENT TEST RESULTS FOR PREDICTION EQUATION:

Use an adding machine and enter in the numbers placed in the boxes. Press the addition key for the numbers with a (+) and the subtraction key for the numbers with a (-) sign. Do not round off (drop) any of the numbers to the right of the decimal place. All numbers are important and must be entered accurately to determine Respondent's score. After the number for the last question has been entered, press the key that gives you the sum (or total) of all the numbers entered and this total will be the Respondent's score. Enter Respondent's score in box below. Then add the constant provided. The result is the Respondent's score.

Total of Score

+ 5.77037*

Screening Score

INTERPRETATION OF RESPONDENT'S SCREENING SCORE:

- If the score is greater than or = 0, the Respondent is designated as having the potential for discharge to a Community Care Home.
- If the score is less than zero, the Respondent is designated as not having the potential for discharge to a Community Care Home.

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*The constant arises from the prediction equation upon which this scoring system is based and must be added as indicated.

SOURCE: Gutkin, et al., 1979

Fig. 6.1—Screening Instrument for Identifying Level II Nursing Home Patients Who Have the Potential for Discharge to a Community Care Home

patients were then reviewed by HRCA clinicians (nurses and social workers) to determine whether the patients assigned by the statistical procedures to a particular cluster did, indeed, represent an internally consistent clinical picture that would suggest that they might need the same package of services. The clinical team had the opportunity to modify the cluster memberships as appropriate to achieve the best fit possible.

On the basis of this two-stage analysis, ten cluster groups were identified. These clusters are shown as Table 6.9. All but the last cluster were felt to have some potential for discharge. A core group of services recommended for all clusters was developed. In addition, for each cluster, sets of predischarge and postdischarge services were developed that would be appropriate for the individual clusters; these service packages are shown in Tables 6.10 and 6.11. A detailed description was also developed for each of the clusters and service recommendations offered. These, in turn, were incorporated into the manual noted above.

Proponents perceived the value of this exercise to lie in the identification of specific subgroups of patients who can be discussed as an entity. Such classifications may have the same benefits in terms of identifying prognoses and appropriate treatment as do diagnoses in the medical model. The extent to which such clustering techniques are useful remains unproven at this point. Nonetheless, this taxonomic approach appears to be a positive step forward in developing an innovative classification system that provides an alternative to the medical diagnostically driven system that has proven frustrating for use with nursing home patients. Although there is no mathematical proof to validate the use of such clusters, further experience will, we hope, provide the basis for judgment about their validity and value. The most germane question is whether and how much an institution can function more effectively utilizing a cluster approach or one that focuses on an individual patient. Such an experiment is beyond the bounds of the present study, but needs to be done.

VPSRO then randomized the pool of patients previously deemed dischargeable into an experimental group (for which utilization review was waived while a program to facilitate discharge was implemented) and a control group, for which no particular efforts at discharge planning were made. At this writing, the full analysis of the experiment is not available, so our comment must be very general. The most important finding was that there was no statistically significant difference between the two groups; only a few of the patients in both the experimental and control groups were discharged to the community. No differences in patients' attitudes distinguished the experimental and control groups.

This result did not really test the service strategies that the PSRO believes are associated with facilitating discharge. VPSRO had expected that facility personnel (social service designees and nurses) would actively work toward discharge planning for the selected patients, but no incentives were provided to encourage that activity. Furthermore, although the PSRO perceived that its social workers actively consulted with the nursing homes about eventual community placement of the patients in the experimental group, our impression is that the experimental effect was weak and facility discharge planning efforts (the independent variable) did not occur to any extent. During a Rand team site visit, separate meetings were held with the staff and leadership of the very active Health Care Association and with the facility administrators of a large chain of nursing homes that is located in

Table 6.9

CLUSTER-SPECIFIC PROBLEM PROFILES

		Cluster									
		A	B	C	D	E	F	G	H	I	J
ADL Limited ADL Helper/Null	Bladder Dresses Upper Feeds Self Bladder Dresses Upper Feeds Self	□	□		□	□	□	□	○	○	◉
IADL Some Help IADL Unable	Housework Meal Preparation Laundry Housework Meal Preparation Laundry		○	◉	◉	◉	◉	◉	◉	◉	○
MOBILITY Limited MOBILITY Helper/Null	Climb Stairs Walk 50 Yards Uses Wheelchair Climb Stairs Walk 50 Yards Uses Wheelchair					○			○	○	○
PSYCHOLOGICAL STATUS J-Mental Health	J-Behavior Paranoid Moderate Severe or Worse Alcohol			◉		□	◉	◉			○
ORIENTATION	Moderate or Worse	□				□	○	○	□	□	○
MORALE	Consensus Positive 50/50 Consensus Negative	□	○			□			□		○
RESISTANCE TO DISCHARGE	J-Moderate or Worse				○	○		○		○	

SOURCE: Morris, Gutkin and Sherwood, 1979.

Key: ◉ = Cluster members tend to have severe problems in the area so marked.

○ = Cluster members tend to have problems in the area so marked.

□ = Cluster members tend to be proficient (have no problem) in the area so marked.

(blank) = There is no consistent pattern within the cluster.

Table 6.10

SUMMARY OF PRE-DISCHARGE PREPARATION SERVICE RECOMMENDATIONS FOR THOSE JUDGED APPROPRIATE FOR DISCHARGE TO A COMMUNITY CARE HOME

A. Services Recommended for all Clusters

Coordinated medical-psychiatric examination	Orientation to and counseling in interpersonal skills required for congregate living
Evaluation for and training, where required, in sensory appliances	Placement of emphasis on the importance of personal hygiene and attire to create a positive self-image
General family counseling to prepare family members for the concept of a Community Care Home	Orientation to the use of the medical-social service delivery systems existing in the community
Counseling for the patient to overcome any resistance, anxiety or fears about community living	A home maintenance training program commensurate with the physical and mental abilities of each individual

B. Cluster Specific Services

Cluster	Cluster									
	A	B	C	D	E	F	G	H	I	J
Physical therapy for improving/maintaining ambulation or independence in wheelchair usage		√			√			√	√	
Occupational therapy for improving/maintaining small muscle function particularly as related to self-care tasks									√	
Physio-occupational therapy to maintain current abilities and prevent regression										√
Training in self-care activities								√	√	√
Training in self-medication	√	√		√	√			√		√
Continence training								√	√	
Training in general home maintenance	√			√		√	√			
Training in small homemaking tasks					√					
Counseling to overcome resistance to community discharge		√		√	√		√		√	
Counseling to improve morale and decrease feelings of loneliness and depression		√		√						
Psychological evaluation and treatment or counseling			√	√		√	√			
Re-orientation to community environment to reduce anxiety about community discharge					√					
Reality orientation						√	√			√
Goal-oriented activities and diversional programs to provide motivation and improve social interaction							√			√
Out-of-facility trips and training in the use of transportation resources			√			√				
Experience in the use of money, shopping and errands, and general reintroduction to community activities	√			√		√				
Alcohol control program	√			√				√		
Friendly visitor program							√			√
Evaluation of existing and potential family relationships which would be supportive in the placement process				√			√			

SOURCE: Morris et al., 1979.

Table 6.11

SUMMARY OF POST-DISCHARGE SERVICE SUPPORTS RECOMMENDED FOR THOSE PERSONS JUDGED APPROPRIATE FOR DISCHARGE TO A COMMUNITY CARE HOME

A. Services Recommended for All Clusters

General custodial care
Day and night sitting
Meal service
Housekeeping
Laundry
Overall medical supervision
Escort and transportation
Social service follow-up

B. Cluster-Specific Services	Cluster									
	A	B	C	D	E	F	G	H	I	J
Outpatient physical therapy		✓		✓	✓			✓	✓	
Outpatient occupational therapy				✓					✓	
Individual counseling		✓	✓	✓	✓				✓	
Family counseling		✓	✓	✓	✓				✓	
Group therapy to improve social participation				✓						
Periodic medical evaluation						✓	✓			
Periodic psychological evaluation				✓			✓			
High level of caseworker contact						✓	✓			
Ongoing reality orientation			✓							
Periodic home nursing									✓	✓

SOURCE: Morris et al., 1969.

Vermont; none of the individuals at these meetings had more than a vague awareness of the discharge planning activities of the PSRO. Facilities were aware, however, that questions about motivation for discharge were raised during the pre- and post-test interviews that PSRO social workers conducted with the patients and often believed that such questions upset the patients.

CONCLUSION

This chapter has presented a variety of projects under the rubric of MCE studies and special studies. The boundaries of the MCE study were not distinct; in fact, some studies officially called MCE studies have more closely resembled surveys (e.g., Baltimore's decubitus MCE study and South Carolina's patient injury study). Colorado's drug audit, on the other hand, was not labeled an MCE study, but had most of its characteristic features. The Vermont series of studies represents a creative departure from the MCE model in order to study phenomena related to quality of care, and through the study, attempts to improve that care.

We conclude that this diversity in the LTC area is beneficial at this stage of program development and that it is useful to expand the concept of the MCE study in LTC and to add other kinds of studies to the repertoire. An expanded MCE study approach should consider using some of the following strategies in addition to the more traditional ones, although the value of assuming a given strategy is not yet known:

1. Broad screening on a number of quality parameters, as in Colorado, in order to target topics for criteria development and in-depth study.
2. Collecting data on the same patients at multiple points in time as in the Colorado drug study or the San Joaquin decubitus study. (This takes cognizance of the long-term nature of most admissions to LTC facilities by monitoring changes over time in the quality of the care of particular patients.)
3. Interspersing studies of an epidemiological nature, designed to document the prevalence of a particular problem and describe its patterns within the LTC population. Such studies are especially appropriate in the psychosocial area because of the limited amount of knowledge in this sector.
4. Varying data collection procedures to fit the topic. At times it might be most appropriate to use the review coordinator and, at times, a record technician might be better suited to the task. Similarly, some topics are amenable to record review but others may require observation to gather accurate data. For some information, for example, participation in recreational activities, it might be necessary to include a patient interview to gather the data. The experience to date suggests that the spectrum of quality issues affecting LTC is so broad that it would be counterproductive to develop stringent guidelines for the conduct of the MCE study.
5. Involving facility personnel in the planning and conduct of studies within the nursing homes. Such use of facility personnel should be encouraged for its intrinsic educational value. It should be remembered, however, that filling out tedious forms has limited educational impact (and can be alie-

nating) compared with participating in a socializing experience on a committee planning an MCE study.

6. Developing a range of studies and experiments (similar to the Vermont discharge planning experiment) within the context of a PSRO review program.
7. Carefully choosing corrective measures including the target(s) of feedback, the nature of feedback, and the choice of educational methods and/or promotion of structural change.

We suggest exploration of alternative strategies as outlined above because the LTC MCE study program, as transplanted from the hospital, has not been shown to be very effective and vigorous experimentation would seem desirable. Even in the few cases where restudy has shown improvement on various criteria, the gains often seem trivial. Dependence on medical record review (which is inherent in most traditional MCEs) rules out study of many important phenomena in LTC facilities not usually documented in records. Although we recognize the demonstration projects were ploughing new ground with the MCE study in LTC, we also must caution that the majority of the studies were rudimentary and inconclusive. No body of knowledge emerges from the demonstrations to suggest a "right way" for MCE studies. Arbitrary rules that would specify the quantity and method of MCE studies are to be discouraged. Flexibility, however, would need to be combined with careful experimentation so that the flexibility does not degenerate into chaos.

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Chapter 7

FACILITY PERSPECTIVE

One measure of a PSRO long-term care review program is the impression that program has made on the nursing homes of the area. We therefore considered it important to tap the facilities' perceptions about the PSRO program. We were particularly interested in perceptions about changes that occurred as a result of the PSRO activity, as well as the positive or negative value that the facilities might have attached to such changes.

METHOD OF STUDY

Although Rand research teams made two site visits to each PSRO, time and distance prohibited on-site interviews at more than a small number of facilities at each PSRO location. To systematically tap the experience of a large number of facilities involved with the PSRO programs, a series of 227 telephone interviews was conducted.

In contrast to a survey, the telephone interviews used a semi-structured interview format. The interviewers were trained to utilize a series of guiding questions (without adhering to rigid wording or ordering) to elicit reactions but to take notes using a standardized format. This method permitted a flexibility in interviews that would not have been possible with a survey questionnaire, yet offered a uniform way of analyzing the data.

Sampling Method

The sample included either 30 randomly selected nursing homes from each site or the total number of facilities with which the PSRO worked (if fewer than 30). The PSROs provided us with lists of the facilities with which they worked and the name of the PSRO's contact person in each nursing home. Professional employees of the nursing home who had worked at that facility for at least the last six months of the demonstration project met the criteria to serve as respondents. The order of preference for respondents was as follows: (1) the identified PSRO liaison, if such a person existed; (2) the director of nursing; (3) the facility administrator; and (4) other knowledgeable professional personnel. Usually the administrator or the director of nursing (or a staff nurse in a large facility) acted as the PSRO liaison. Social service designees and business managers occasionally served as respondents; LPNs, nursing aides, and professional personnel were considered ineligible.

Data Collection

The telephone interviews were conducted by five trained interviewers from The Rand Corporation's Telephone Center between mid-January and mid-February 1979. Administrators of facilities included in the sample received an advance letter describing the telephone study, indicating the general areas of interest, and outlining the eligibility requirements for respondents. The Health Care Associations of the relevant states and the ten PSROs were informed about and supportive of the plans; facilities receiving our letter were therefore able to verify the legitimacy of the study from local sources. The advance letter requested the facilities to identify an appropriate person to be interviewed by the Rand researcher.

The telephone calls themselves usually took place in two stages, (1) initial contact(s) to identify the respondent and make an appointment for a call-back at the respondent's convenience, and (2) a rather lengthy telephone interview on the substantive issues. The latter discussions ranged in length from 25 minutes to over an hour with the large majority of calls lasting 40 minutes or more.

Telephone interviewers underwent both general training and training specific to the PSRO project; role-playing was utilized to produce comfort with the conversational format, familiarity with PSRO/LTC terminology, and preparation for reactions that might be encountered. PSRO areas with more than 30 participating homes (primarily South Carolina and Charles River) were oversampled to produce training cases. Each interviewer conducted several training interviews monitored by an instructor. Note-taking procedures were similarly rehearsed. (Because the training interviews were randomly selected and used the same advance notification procedures as the regular sample and because their quality was high, they were included in the analysis of data.) During the study proper, a sample of the telephone calls was monitored by a supervisor who was also available to assist with any difficulties that might arise.

Typically, the interviewer made notes during the interview and then edited them into prearranged categories immediately after the telephone call.

The telephone interviewers focused on the demonstration years. They were careful not to introduce recent post-demonstration events into statements of impact and specifically labeled any of their notes that referred to a period after October 1978. Despite these precautions, some confusion between the two periods still might have occurred, since the respondents' view of the past would inevitably be influenced by the present.

Guiding Questions

To place the facility responses into perspective, the interview began with factual questions about the size of the home, the proportion of patients certified as SNF and ICF, the proportion of Medicare and Medicaid patients, and the occupancy rate. This information provided a rough guide to the importance a PSRO review program might assume for that facility.

The remainder of the interview concerned the extent to which the respondent attributed changes affecting the facility to the work of the PSRO. After posing the general question, the interviewer probed additional areas if they were not covered in the respondent's spontaneous comments. These categories of possible change included:

- Quality of nursing care.
- Record-keeping.
- Physician care.
- Use of drugs.

- Transfer of information from the hospital to the nursing home.
- Levels of care and patient mix.
- Administration of the facility.
- Facility staff morale.
- Practices of ancillary personnel.
- Facility relationships with other agencies and organizations.

For each of these categories, the interviewer indicated whether the respondent perceived any changes attributable to the PSRO, and if so, whether these were viewed as good or bad. If the value the respondent attached to the change was not obvious from the context, he was asked the question directly. For example, a change such as increasing the amount of record-keeping was perceived negatively by some respondents and positively by others, depending on whether such documentation was viewed as a detractor from or a facilitator of good patient care.

Other themes systematically developed included reactions to feedback given by the PSRO, comparison of the PSRO to other LTC review programs that the respondent had experienced, and an overall assessment of the impact of the PSRO in the region. The time commitment required of various kinds of facility personnel for the PSRO program was also discussed. Finally, each respondent was asked to indicate his/her own opinion about the kind of review system that would be most useful for monitoring long-term care.

DESCRIPTION OF SAMPLE

Advance letters were sent to 269 facilities (representing all participating facilities for the Bronx, Minneapolis, Multnomah, San Joaquin, and Utah and a sample of the others). Table 7.1 shows the sample composition and the sample attrition by site. Of the original 269 homes, 25 (9 percent) were dropped because an eligible respondent could not be contacted, leaving an effective sample of 244. The most frequent problem causing a facility to be dropped was the inability to identify an employee who could comment on the demonstration time period. Occasionally, the only eligible respondents were ill or on extended vacations during the month of our telephone calls. In four cases the nursing home itself had gone out of business or the telephone had been disconnected and no further trail was available.

The refusal rate was also low. Only 17 (7 percent) of the eligible facilities declined to participate. Nine refused because of pressures of time (sometimes suggesting several callback times but finding themselves "too busy" each time); six refused to give information over the telephone, although they indicated they would have completed a mailed questionnaire; and three declined firmly, expressing negative attitudes toward participation (one of these latter expressed doubt that the interview would really be held in confidence).

Table 7.2 describes the size, type, and occupancy rates of the homes in the sample and the job classification of the telephone respondents. The study involved large facilities; the mean number of beds was 110 and the median 90. Over half the homes were classified as "mixed" (called "comprehensive" in Baltimore and "dual certification" in South Carolina). The homes tended to be fully occupied, with 84 percent of the homes reporting 95-100 percent occupancy. Although some sites, such as Utah, had been described by the PSRO as over-bedded, the mean occupancy

Table 7.1

Eligible Respondents and Refusals by Site

Site	# Letters Sent	# With Eligible Respondents	# Interviews Completed	# Refusals
Baltimore	31	24	22	2
Bronx	21	20	17	3
Charles River	37	34	30	4
Colorado	31	26	25	1
Minneapolis	17	17	16	1
Multnomah	13	11	11	0
San Joaquin	27	26	26	0
South Carolina	43	42	38	4
Utah	18	15	15	0
Vermont	31	29	27	2
TOTAL	269	244	227	17

rate was 95 percent and the median 98 percent. The responding facilities did not generally consider waiting lists to be workable; 37 percent did not keep a waiting list, 13 percent stated that the length of wait fluctuated a great deal, and 23 percent estimated the average length of wait for admission as under a month. At the other end of the spectrum only 3 percent estimated that applicants waited six months or more. The problem with waiting lists, according to the respondents, was that the applicants generally had made other plans by the time the vacancy became available.

Respondents were fairly evenly divided into administrators and directors of nursing; a small number of telephone calls were conducted as conference calls with both of these individuals serving as respondents. In 22 percent of the cases some other category of personnel gave the information. Most frequently this was a staff nurse, less frequently a social worker, activities director, or business manager.

FINDINGS

Facility Attribution of Impact to the PSRO

The extent to which the respondents attributed impact—both positive and negative—to the PSRO LTC review program is depicted in Table 7.3. For all categories except record-keeping, the majority of respondents did not perceive that any PSRO-produced changes had occurred; answers were coded as "no change" if a facility indicated that there had been some changes in the given category but the

Table 7.2

CHARACTERISTICS OF FACILITIES IN TELEPHONE STUDY

Characteristic	Proportion of Respondents (Percent)
Number of beds in facility	
1- 25	7
26- 50	18
51- 99	29
100-199	33
200 +	13
	100
Type of home	
Skilled	28
Intermediate	19
Mixed (including comprehensive)	53
	100
Occupancy rate	
under 70 percent	4
70- 79	3
80- 89	5
90- 94	4
95-100	84
	100
Role of respondent	
Administrator	39
Director of Nursing	34
Administrator and DON	15
Other	22
	100

PSRO had no responsibility in bringing them about. For example, facilities sometimes indicated that drug use patterns had improved because of their own initiative in hiring a pharmacist who could examine the regimens. Similarly, facilities sometimes indicated a change in record-keeping or quality of nursing care that they perceived as attributable to the actions of the state health department or the fiscal intermediary rather than the PSRO.

The most frequent areas of perceived positive impact attributed to the PSRO across all sites were quality of nursing care, quality of transfer of information from acute hospitals, and record-keeping (about one-third of the sample for each category). Slightly less than one-quarter of the sample perceived a positive effect on physician care, staff morale, and activities of ancillary personnel (such as PT, OT, pharmacy, and social service consultants).

The most commonly perceived negative impacts were record-keeping (31 percent), staff morale (24 percent), and level of care changes or changes in patient mix (21 percent). Record-keeping and staff morale figured prominently in both the positive and negative categories. Record-keeping was perceived by some facilities as a painful chore imposed by the PSRO, and by others as a crucial activity for which the PSRO was giving valuable assistance. Regarding staff morale, some facilities found the sense of staff professionalism and self-esteem enhanced by the attention of the PSRO and others perceived the whole operation as demoralizing.

As Table 7.3 clearly shows, categories that the majority of respondents perceived as unaffected in any way by the PSRO included drug use (88 percent), ancillary personnel (69 percent), and physician care (67 percent). These are three rather important categories in which one would have hoped to find a perceived impact.

The cumulative figures mask the very real site-specific differences in perceived impact shown in Table 7.4. The number of facilities at some sites is very small, rendering the percentage reporting somewhat misleading, but the cross-site differ-

Table 7.3

IMPACTS OF THE PSRO DEMONSTRATIONS AS PERCEIVED BY FACILITY RESPONDENTS
(Percent)

Area of Potential Impact	None	Positively Perceived Change	Negatively Perceived Change	Change Perceived as Neutral	Total
Quality of nursing care	54	35	10	1	100
Record keeping	30	34	31	5	100
Physician care	67	23	8	2	100
Drug use	88	11	0	1	100
Information transfer	56	34	7	3	100
Level of care/patient mix	63	10	21	6	100
Facility administration	66	9	19	6	100
Staff morale	51	23	24	2	100
Ancillary personnel	69	22	5	4	100
Relationships with other organizations	69	14	14	3	100

Table 7.4

Percent of Respondents Indicating Some Change had Occurred in Their Facilities as a Result of PSRO Review, by Site[a]

	Quality of Nursing		Documen-tation		Physician Performance		Use of Medications		Transfer of Information to N.H.		Patient Mix (LOC)		Adminis-tration		Staff Morale		Performance of Ancillary Personnel	
PSRO	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Baltimore	32	5	41	23	27	5	0	0	14	9	27	24	19	14	14	5	18	5
Bronx	24	0	35	18	18	0	0	0	24	6	12	24	18	0	18	12	24	0
Charles River	25	7	45	35	37	7	41	0	67	17	13	13	7	18	37	23	53	0
Colorado	12	13	16	4	17	13	12	0	17	0	0	0	4	0	21	17	13	0
Minneapolis experiment	43	0	29	29	0	0	0	0	29	0	0	0	14	29	43	29	71	14
Minneapolis control	33	0	11	11	0	0	0	0	67	0	11	11	0	0	11	0	22	0
Multnomah	36	0	27	46	36	18	0	0	55	0	9	9	0	36	27	18	0	18
San Joaquin	35	8	13	24	35	0	21	0	58	0	8	12	23	8	35	15	23	0
South Carolina	22	22	21	53	5	16	3	0	24	8	11	55	0	40	13	40	14	8
Utah	53	7	73	7	53	13	20	7	20	0	7	13	7	7	33	13	13	0
Vermont	11	22	26	57	11	11	0	0	15	19	0	23	4	33	11	59	7	11

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[a] Percentages are shown for only those indicating positive or negative effects; those indicating no change are omitted from this table. The percentages will therefore not total 100.

[+] Perceived positive change.

[-] Perceived negative change.

ences are nevertheless noteworthy. The patterns shown in this table are discussed further in the individual assessments of the programs at each site (described in Vol. II).

Utah homes credited the PSRO with more positive impact on quality of nursing care, documentation, and impact on physicians than did other sites. Charles River also figured high in positively perceived impact on documentation, physician behavior, and (consistent with its emphasis) transfer of information. San Joaquin also was perceived positively in the latter regard. Homes in Minneapolis's experimental group, with its attention to multidisciplinary patient planning, not surprisingly perceived a positive impact on ancillary personnel. Programs such as Charles River, Utah, Minneapolis experimental group, and Multnomah (with its delegated review) were perceived as comparatively helpful to facility staff morale, although perhaps not to the extent the PSROs would have hoped; nevertheless, the findings do support the beliefs of these PSROs that collegial and educational efforts with facility staffs have morale-elevating effects.

Not surprisingly, programs that had binding Medicaid review during a substantial part of the demonstration period (Vermont and South Carolina) were perceived as causing deleterious effects on the facility administration, the patient mix, staff morale, and documentation efforts compared with other sites. In Multnomah, where under a delegated system the facilities were responsible for staffing the review, and in Charles River, where an emphasis was placed on patient assessment, the percentages of facilities perceiving the PSRO's impact on record-keeping negatively was also somewhat higher. (Each site-specific chapter in Vol. II contains a section devoted to the results of the telephone interviews at that site.)

The perceptions presented thus far are, of course, the facility respondents' own perceptions of what constitutes a positive or negative change. The absolute value of such changes (i.e., the extent to which the changes support the PSROs' goals of insuring appropriate, high quality care) may or may not be congruent with the facility's values. The degree of congruence will depend on the extent to which the facilities' goals are similar to those of the PSRO. In a later section of this chapter we present a content analysis of the kinds of changes that the facilities perceived as positive and negative so that the reader can make a judgment on the amount of goal congruity. But the perceptions of the facilities are themselves important for their implications about the ability of the PSRO to work positively with the nursing home industry.

PSRO Feedback to Facilities

All ten PSROs indicated that they provided feedback about their care to the facilities; 86 percent of the respondents concurred that the PSRO had provided them with feedback (28 percent on a case-by-case basis, 22 percent regarding patterns of care, and 36 percent indicating both kinds of feedback). Of the almost 200 facilities that recognized they had received feedback, about two-thirds (68 percent) perceived it as helpful. The remainder viewed it as either not particularly useful or, in many fewer cases, harmful. Table 7.5 displays responses to this variable (and others discussed below) by site.

Table 7.5

Percent of Respondents at Each Site Agreeing PSRO Review Had Impact

Respondent Perception	Baltimore	Bronx	Charles River	Colorado	Minneapolis Experiment	Minneapolis Control	Multnomah	San Joaquin	South Carolina	Utah	Vermont
PSRO feedback back helpful	77	63	85	58	50	57	55	87	63	86	42
More staff added to perform PSRO review activities	10	6	43	8	71	22	36	87	32	0	50
PSRO better than other review systems known to respondent	59	65	75	44	50	63	30	76	18	53	22
PSRO a positive overall influence in the area	73	50	79	56	60	44	55	81	15	60	27

Time and Staff Commitments

The telephone interviewers inquired about the time commitment needed by the facilities to perform the activities connected with the PSRO review. Such activities included preparing charts for reviewer visits, doing assessments and/or filling out forms as part of the review process, discussing patient care with reviewers, attending meetings or inservice education, or performing a delegated review function. Table 7.6 presents the respondents' estimations of the time commitments required for different categories of personnel in order to fulfill PSRO expectations. It should be emphasized that these are far from precise figures both because they involved a quick and rough estimation and because respondents were required to average the time demands across a two-year period despite unevenness in the actual time requirements.

Despite these caveats, it is possible to state that the total amount of time spent by facility personnel in most nursing homes tended to be rather slight for all categories of personnel. For a few homes, however, the facility perception was that someone in the facility spent substantial time on PSRO activities. Often the time was so intertwined with the staff member's regular work that the respondent could

Table 7.6

ESTIMATED ADDITIONAL TIME REQUIRED BY LTC FACILITY STAFF AS A RESULT OF PSRO REVIEW
(Percent)

Hours per week	Registered Nurse	Physician	Administrator	Aide	Clerk
None/imperceptible	26	70	42	87	63
<1	9	7	14	3	4
1	14	9	13	3	8
2	12	5	9	1	7
3	9	2	5	1	0
4	5	2	4	1	2
5	5	2	3	1	4
6-10	6	2	5	2	8
11-20	10	<1	2	1	2
21+	4	<1	3	0	2
	100	100	100	100	100
Median number of hours per week	2-1/2	0	1/2	0	0

not identify any time spent in PSRO-related activities that might have detracted from any other duties. For only two categories did more than half the personnel spend any time on review-related activities. The only discipline involved to any large extent was nursing, and since these hours reflect total estimated time of all RNs and LPNs in facilities with a median bed capacity of 90, a median of 2-1/2 hours of nursing time per week across all nurses does not seem excessive.

Perhaps a more sensitive indicator of time expended in review-related work is reflected in facility reports that staff had to be hired to serve additional hours or that new positions were created solely to accommodate PSRO-related work. Twenty-one percent of the respondents indicated that the addition of personnel at some level was needed because of the PSRO. As Table 7.5 shows, this necessity varied considerably according to the various PSRO program directions. Facilities with a high proportion reporting some need to add personnel time were Minneapolis's experimental group, Vermont, and San Joaquin. At other sites only a few respondents reported this need; in all likelihood these were smaller facilities that were not geared up for clerical work.

Impact on the Area

Respondents were asked to evaluate the overall impact of the PSRO on long-term care in their particular community. Over half were positive (53 percent); 28 percent were neutral on the subject. Similarly, the respondents were asked how they would compare the PSRO review with other review systems with which they were familiar, including the state's programs; here 48 percent of the respondents perceived the PSRO review as better, 22 percent as worse, and 30 percent as about the same as any other review program. If the PSRO was preferred to the state, it was usually because of the regular review schedule as opposed to annual inspections. Some also highlighted instant feedback and access to physicians as PSRO advantages. Again, Table 7.5 indicates the site-specific breakdown on these last two judgments; considerable range is evidenced between San Joaquin and Charles River at the more positively viewed end of the spectrum and Vermont and South Carolina at the negatively perceived pole.

Cross Tabulations

As shown in Table 7.7, there were marked distinctions in the perceived impact of the PSRO activity on the particular facility, depending on whether the respondent was a director of nursing or a facility administrator. The former was more likely to perceive positive impact across all the categories that we examined than was the latter. Directors of nursing also were more likely to perceive the PSRO as a positive force in the area and to compare its review system positively with other review systems they had known. The differences may be attributable to position rather than professional training, because many of the administrators were, in fact, nurses.

Not shown on the table are the responses when the telephone call was conducted as a conference call with both the administrator and director of nursing; the joint calls tended to show a midway position on the variable but we have no way of interpreting those results. Omitted also are the respondents who fell into the "other" category; this group consisted primarily of nurses and social workers with some

Table 7.7

Comparison of Perceived Impact of PSROs by Facility Directors of Nursing and Administrators[a]

Potential Area of PSRO Impact	Directors of Nursing (N = 78)			Administrators (N = 88)		
	% Perceiving Positive Effect (A)	% Perceiving Negative Effect (B)	Calculated Net Effect (A-B)	% Perceiving Positive Effect (A)	% Perceiving Negative Effect (B)	Calculated Net Effect (A-B)
Change in:						
quality of nursing	50	7	43	20	15	5
documentation	24	0	24	5	0	5
physician performance	33	6	27	13	10	3
use of medication	19	0	19	4	0	4
transfer of information	37	3	34	30	12	18
patient mix	9	18	- 9	7	27	-20
administration	12	9	3	6	31	-15
staff morale	32	17	15	14	33	-19
Helpfulness of feedback	71			55		
Overall positive influence	66	21	45	37	42	- 5
Compared with other review systems	54	15	39	38	33	5

[a] Percentages are shown for only those indicating positive or negative effects; those indicating no change are omitted from the table. The percentages therefore do not total 100.

business managers. Responses from this group more closely resembled those of the directors of nursing. To make a clear contrast, the table is limited to only the 88 administrators and 78 nursing directors who were solo respondents.

The more positive assessments of the directors of nursing in areas such as the PSRO's impact on quality of nursing care, documentation, physician behavior, staff morale, transfer of information, and drug use could be explained in two ways: (1) the directors of nursing are in a better position to observe these positive effects, and (2) the work of the PSRO is more compatible with the goals that are important to the function of director of nursing. The first explanation—the greater familiarity of the director of nursing—might have worked in the other direction, making their judgments of negative impact greater and reducing their judgments of "no change." The administrators perceived much more negative change in all the patient care areas than did the directors of nursing, and the nurses perceived more positive change than the administrators even in areas related to management (administration of the facility, relationship to other organizations). This observation tends to support the second explanation that a halo effect is operative. In other words, the negative set of the administrators and the more positive set of the directors of nursing are carried over into comment on areas about which they are less familiar.

The difference in the perceptions of administrators and directors of nursing highlights the complexity of the relationships of the PSROs with the long-term care facilities. It also confirms the less systematic impressions of some PSRO staff members that nursing personnel were very responsive to the work of the review coordinators at the same time that the nursing home industry was officially opposing the PSRO. There was some confounding of site and respondent so that the more negative sites (South Carolina and Vermont) had a higher proportion of administrator respondents and the more positive sites (Charles River, San Joaquin, Utah) had more nurses as respondents.

We also examined the data for differences in the perceptions of the facilities according to facility size. Here we did not uncover many differences. The smaller facilities were more likely to perceive the PSRO's impact on record-keeping as negative, perhaps because large facilities are more oriented toward record-keeping procedures. The respondents from the largest homes were somewhat less likely to perceive that they had received feedback from the PSRO. This was most marked in consideration of the homes with more than 200 beds. Of the 27 homes with 200 beds or more, 55 percent perceived that the PSRO had given feedback to the facility; of the 161 homes with less than 200 beds, 85 percent perceived that such feedback had been received.

CONTENT ANALYSIS OF FACILITY COMMENTS

In addition to eliciting the perceptions of the respondents about the degree to which the PSRO produced change and the positive or negative value placed on such changes, the telephone interviewers took detailed notes of the actual comments made during the lengthy phone interviews. These notes were subjected to a content analysis to extract the rationale underlying positive or negative facility assessments. This material provides a flavor for the way the PSRO activities are seen from a facility perspective and fleshes out the content behind the facility value judgments.

Not all who stated their opinions in response to an interviewer's probe expanded on those opinions. Others made extensive comments. Although each individual's response was placed into one of the four change categories (no change attributable to PSRO, positive change, negative change, and change/neutral), this section of the chapter considers all positive and negative statements made by all respondents. Sometimes the same respondent offered both positive and negative comments on the same topic.

Quality of Care

Positively described impacts of the PSRO on quality of nursing care were largely outgrowths of the concurrent review programs, although a few respondents cited MCE studies specifically. The most commonly stated positive impact was making the facility staff more aware of the special needs of an LTC patient (e.g., ADL training); 16 percent of all 227 respondents made this comment when asked about quality of nursing care. Other positive factors in order of frequency were: a general belief that concurrent review improved quality of nursing performance (14 percent); improvement of documentation, viewed as an ingredient of quality care (11 percent); PSRO assistance with problem-solving regarding specific patients (9 percent); staff education and training (5 percent); better or more appropriate laboratory work (3 percent); and improved physician communication with facility staff (2 percent). Respondents often mentioned more than one type of positive comment with 175 distinct positive impacts mentioned in all.

The actual remarks of the respondents highlight concrete learnings such as taking apical pulses, charting, and making patient care plans. New practices were instituted such as rehabilitation therapy for stroke patients, re-evaluation of the use of Foley catheters, or emphasis on ADL training. More global impacts were also described; as one respondent said, "We became aware of how the patients depend on us." Many respondents indicated an appreciation of the onsite double checking. "They gave us another pair of eyes to look at our charts."

On the negative side, there were 27 descriptive comments. These included: more paperwork, which detracted from patient care (5 percent); inaccurate or incomplete reviewer evaluations (3 percent); psychological trauma for patients or families because of PSRO LOC changes or PSRO reference to the possibility of discharge (2 percent); and infeasible or impractical reviewer suggestions (1 percent).

Record-keeping

There were 94 positive statements about PSRO impact on record-keeping and 101 negative statements. On the positive side, the most frequently mentioned item was improved and increased nursing and physician documentation (29 percent of total sample), followed by simplification of paperwork (9 percent), and facilitation of billing (4 percent). On the negative side, 28 percent of the sample perceived that the PSRO caused more burdensome paperwork; 6 percent believed that the PSRO was inappropriately delegating documentation tasks; 5 percent found that the PSRO's forms were difficult, inadequate, or unnecessary; and 4 percent complained that the PSRO program caused duplication of paperwork. Vivid statements were made about this problem. "Charting is the nurses' hell on earth" seemed to express the view of a number of respondents. There were complaints that the facilities were being held responsible for "PSRO work" such as pulling charts, duplicating materials, and sending out letters regarding PSRO decisions. The paperwork burden was perceived as especially onerous for an undereducated staff: "They are asking people to write who have never been taught to write."

On the positive side, examples were given concerning improved allergy charting, better attention to getting admission information from families (e.g., date of last dental examination), better charting of accidents; and more recognition of the importance of charting "absence of" as well as presence of symptoms. Some made the comment that, although charting was a burden, it did enable staff to know the patient better as well as consolidate information about that patient in a useful, retrievable way.

Physician Care

As has already been stated, the facilities as a whole did not perceive that the PSRO had made very much impact on the behavior of physicians in LTC one way or another. Of those that made comments, there were 54 positive statements and 21 negative ones. The positive statements fell essentially into two categories; 12 percent of the 227 respondents thought that the PSRO activity caused improvement in physician charting and 11 percent of the respondents cited increase in physician visits. Isolated comments were made by two facilities about the PSRO assistance in achieving some desired physician turnover, and one home perceived it as advantageous that the utilization review committee was no longer needed. Four kinds of negative impact on physician care were perceived by the respondents: Eight people mentioned that negative physician reaction to PSRO suggestions damaged facility-physician relations; six regretted that the PSRO had brought about a decrease in physician involvement either because of the decreased role of the UR committee or because some physicians stopped practicing in the nursing homes; four persons found it harmful that persons "not qualified to review physician care" were doing so; and one respondent complained about the PSRO's paperwork requirements for physicians.

PSROs were often perceived as able to make an impact on physicians that the facility could not do itself. A sampling of comments illustrates this:

> "Before we did not have the courage to stand up to the doctors."
>
> "We started to discuss things with the doctors that we thought should be done...there weren't enough pap smears being done on females but now it is better."
>
> "Because the PSRO carries weight, its influence causes MDs to be more cooperative."

In sharp contrast were statements that being placed in the middle between the PSRO and the doctor damaged the facility's relationship with the doctor. Several of those who perceived PSRO impact on physicians negatively commented that their particular doctor did not believe in the PSRO. Protectiveness of the doctors was also evidenced: "They want a doctor to be a computer and that isn't fair." One respondent felt that five physicians had stopped seeing patients at the facility because of the PSRO.

Drugs

The positive comments here illustrate the way the PSRO can influence use of drugs within a facility. Thirty-five positive comments were made; 14 referred to elimination or decrease in the use, dosage, or frequency of medication and 13 referred to better charting, better understanding, and more appropriate orders. Seven respondents attributed more appropriate and up-to-date laboratory work and diagnosis to the influence of the PSRO and one stated that the PSRO made it easier for the facility to order drugs.

The specific comments pinpoint the value of a concurrent reviewer with a good clinical background. Facilities indicated that drug errors were uncovered, that the use of tranquilizers was reduced, and that PRN medications were being used more cautiously. Some of the improvements were a result of PSRO consultation on development of a drug management system:

> "We had everything listed [on PSRO assessment form]. It was easier to summarize what drugs patients received, and this helped us to discontinue some."
>
> "We've eliminated two whole bins on the medication cart."

Regarding negative impact on drug use, two respondents believed that the PSRO review was requiring unnecessary and expensive laboratory work.

Level of Care/Patient Mix

Those who commented on LOC changes were more likely to stress the negative. The 48 negative impact statements fall into four categories: 19 respondents (8 percent of the sample) perceived that reclassifications were inappropriate, 14 (5 percent) stressed that the LOC policies hurt the facilities financially, 10 (4 percent) emphasized greater and/or unnecessary patient movement, and 5 (2 percent) alluded to documentation problems and additional work connected with LOC changes (all but one of the latter were from South Carolina).

Except for one respondent who believed that the PSRO activity reduced movement of patients between facilities (a Baltimore respondent referring to the new comprehensive designation), the positive comments all expressed the view that LOC decisions were more appropriate and prompt because of the PSRO.

> "We used to get patients who were kept in the hospital so long they hardly needed skilled care. We welcome getting skilled patients who really require the range of skilled services. We prefer to use our skills."
>
> "We are now receiving a better choice of patient. We can't handle patients who need around-the-clock treatment and care. This type goes to skilled nursing homes."

Transfer of Information

The 87 positive comments about the PSRO's impact on transfer of information between acute and LTC facilities fell into three categories: 42 respondents (19 percent) believed that the PSRO facilitated and accelerated the transfer of better quality discharge summaries; 28 (12 percent) found that the PSRO form was an improvement in itself, leading to better information at both acute and nursing home levels; and 17 (7 percent) also highlighted the fact that the PSRO program brought about better continuity and simplified information gathering for facilities by the onsite preadmission reviews performed in the hospital. Positive reactions were particularly common from Charles River facilities where an emphasis was placed on use of the same form for preadmission and continued stay reviews (67 percent of respondents from this site attributed positive impact in this area to the PSRO). A sample of comments from Charles River facilities follows:

> "Before the demonstration period we would often have no clear picture of the patients. . . . [Now] we finally felt we had an agency behind us in dealing with acute hospitals."
>
> "Now we [LTC and acute facilities] share a universal language."
>
> "There's a six-page form instead of the old three-page referral form. We had a better idea of the patients' needs, a better outline. We now feel like we know the patient even when they are in the hospital."
>
> "I didn't like the form at first, but I rely on it now."

Negative perceptions about the PSRO's impact on transfer of information were rare; only 7 percent of the sample fell in this category and only 16 usable comments were made. These fell into two categories: Ten individuals believed that the PSRO forms hampered the quality of information in some way and six held the PSRO responsible for a slower information flow. Those who complained about the preadmission review forms seemed to think that they encouraged hasty evaluations and inaccurate appraisals. Others complained about the standardization inherent in preadmission review:

> "We have a one-page form that tries to cover diagnosis, mental status, etc., and you cannot give a true assessment of the entire patient on these forms."
>
> "Due to the PAP [Minneapolis's form] there was more information but it was not useful."
>
> "The PSRO seems to be trying to standardize all hospital forms which could result in less detailed patient information."

Facility Administration/Staff Morale

Comments in these areas are not easily categorized since they were more idiosyncratic to particular facilities. There were 17 positive comments in the administrative area and most concerned the PSRO's effect in simplifying some aspect of the paperwork involved in certification and therefore facilitating the nursing home's receipt of payment. Five respondents mentioned that the PSRO's shouldering of some staff education had a useful effect on the facility. One respondent appreciated the PSRO's assumption of the conduct of MCE studies and another indicated that the PSRO helped with the justification for the purchase of a piece of equipment.

The 56 negative responses here are divided into 23 that emphasized increased paperwork and staff time for review, 16 that attributed undesired staff turnover or change to the PSRO, ten that indicated the PSRO program had a direct deleterious effect on facility revenue, and seven negative comments about the policies or personnel of the PSRO program in interaction with the facility. In this latter group were the comments of administrators who became involved with time-consuming efforts to reverse PSRO decisions or bring about a replacement of a review coordinator. The need to add staff was attributed to the PSRO for two reasons: Some emphasized the need to hire someone for the actual paperwork, while others said that the patients required more care, necessitating the hiring of additional personnel.

In the area of staff morale, the positive effects were described by 25 respondents as increased sense of pride and professionalism among LTC staff, while 23 respondents stated that the staff liked the PSRO reviewers who therefore had a positive effect on morale. On the negative side, the respondents who elaborated tended to reiterate the major problems that the facility experienced with the PSRO, all of which could be claimed to have had a negative impact on staff morale. The most commonly cited problem was additional frustrating paperwork (mentioned by 30 respondents) and specific objections to the PSRO personnel (mentioned by 20 respondents). The latter included complaints about turnover of PSRO reviewers, negative reviewer attitudes toward facility personnel, reviewers with what the facility perceived as questionable qualifications, and reviewers who were perceived as making unreasonable demands. In a few instances, disagreements over certification issues were seen to have an adverse effect on facility staff morale.

Facility Preferences for Long-Term Care Review

At the conclusion of the telephone interviews, respondents were asked to indicate their preferences for an LTC review program. Facilities were in general agreement that some form of monitoring would be required, if only because there are known instances of abuses within the delivery of LTC; only seven respondents suggested that there should be no review at all. A rather wide range of suggestions were made with several themes emerging.

There were 60 responses that the present review system of the PSRO was the ideal system for monitoring LTC. These reactions were distributed fairly evenly across sites except that over half of the San Joaquin respondents endorsed the PSRO system "as is" while very few South Carolina or Vermont respondents fell into this category. On the other hand, there were only 23 comments stating that either an internal UR system or the state review system was better than the PSRO program.

Substantive opinions about what constitutes a good review system included the following: (1) emphasis should be placed on bedside assessment as opposed to record review; (2) the facility should be more involved in designing the review program; (3) physicians should be more involved in reviewing and being reviewed; (4) there should be universal guidelines for level of care and quality assurance; (5) there should be less duplication of review; (6) one review system should be responsible for both Medicare and Medicaid patients and both SNF and ICF patients; (7) monitoring should not result in moving patients; (8) criteria should be oriented differently (e.g., to include more psychosocial factors or more nutritional factors); and (9) there should be more inservice education as part of quality control.

Opinions about the most desirable review system have not been quantified into categories because such opinions pervade all the notes taken at each interview. The quality of the comments received were thoughtful and concerned; for the most part respondents gave evidence of having considered the issues and many telephone interviews show recognition of their complexity. Themes such as inadequate incentives to provide high quality ICF care are touched upon as well as the need for criteria in the psychosocial area. Facilities also endorse criteria development and focused review. Whether the respondent supported the PSRO, the state health department, or some combination, he/she was likely to emphasize the importance of actual observation of patients and facilities and development of cooperative relationships with nursing homes:

> "I would hire good nurses to review patients by eye contact. Spot checks to eliminate paperwork instead of having people who don't know nursing homes and rules that are unrealistic."
>
> "Review coordinators should be nurses who've worked in LTC."
>
> "It has to be brought down to a much more individual level with each facility considering its own problems and resources."

Facility comments were also very pragmatic. Interestingly, there were few comments that the reviewer should avoid disturbing the patients and should confine himself to record review. Instead, the facilities seemed to take the position that fair review required patient contact. It was suggested that reviewers "use their nose." The feedback to both physicians and nursing home personnel was also considered very important. Respondents indicated that inclusion of positive feedback was also a characteristic of a good review system.

> "Give the provider of service continual feedback. Reward the provider for better than average performance. We need a merit system rather than a punitive system."

IMPLICATIONS

The demonstration projects were seminal in nature and, as already stated, did not provide (or, for the most part, attempt to provide) hard information about their impact. Lacking such information directly from the PSROs, the facility perceptions do make impressions of PSRO accomplishment somewhat more systematic. The facility interviews reflect two kinds of impacts: (1) operational or attitudinal changes that the facilities enumerate and attribute convincingly to the PSRO activity, and (2) facility opinions about the PSRO, which are themselves a product of PSRO programs and the manner in which those programs are carried out.

The telephone interviews offered considerable validation of the PSRO claim that the concurrent review programs were responsible for improvements in quality. The accumulated evidence citing suggestions of PSRO nurses in terms of individual patients and the overall program, changes in nursing home policy for care and/or documentation, and changes in physician behavior is weighty. This is especially true because many of the PSROs were also blamed by the same respondent for making level of care determinations that affected the facility adversely; such respondents would be unlikely to exaggerate the good points of the PSRO program.

The improvements in transfer of information are a notable example of a concrete impact that was repeatedly cited.

Facilities were rarely indifferent to the PSRO. The fact that so many respondents were willing to invest close to an hour in discussing the issues of LTC review from their perspectives suggests that the PSRO LTC program had made significant "waves" in the respective regions. PSROs had clearly become important entities to the facilities even in areas where binding review had not been established and participation was voluntary.

Nursing homes constitute perhaps the most important constituency in the PSRO LTC domain. It is to the PSRO's advantage to develop working relationships with the nursing home industry that are as cordial as possible. Ideally, even when the PSRO is taking a position that is at odds with facilities, the facilities as a whole should not view the PSRO as vindictive or unreasonable. A number of clues emerged from these telephone interviews about the kind of PSRO behavior likely to stimulate a good working climate.

First was a suggestion that the more concrete assistance that can be provided, the more positive the attitudes of the facilities will be. Such assistance for these respondents took the form of suggestions for patient care, backup in bringing about physician compliance with quality guidelines, or provision of educational programming. If initial fears that they will receive more criticism than understanding are disarmed, LTC facilities, by and large, seem willing to accept help.

Similarly, the PSRO should seek personnel who have credibility with the LTC industry; such credibility is based on both professional training and actual practical experience with LTC. The manner in which the PSRO approaches LTC staff is also crucial for developing cooperative relationships. If these conditions are met, the facility personnel are more likely to view the PSRO as a resource.

Of course, the PSRO must avoid being co-opted by the group it is monitoring. This danger is best prevented through the establishment and promulgation of clear and objective criteria. To the extent possible within federal guidelines, the PSRO should involve the facilities in the construction of quality criteria and standards and should use the experience of good facilities to construct norms. The comments made in the telephone interviews suggest that many facilities would welcome the opportunity to engage in this kind of dialogue.

An identical task could elicit positive or negative responses, particularly in terms of the assessment forms some PSROs required facilities to complete. Both Vermont and Charles River used virtually the same forms with the same expectations for their completion. At the former site, most comments indicated that the form was burdensome and superfluous; at the latter, most comments indicated that it was helpful though time-consuming. The crucial distinction was whether the facility perceived that it was doing the PSRO's work or that the PSRO was helping the facility do its work.

In summary, 227 conversations with representatives of the facilities that worked with the demonstration projects showed that: (1) facilities were able to identify impacts that they attributed to the PSRO program, (2) the positive or negative balance the facilities placed on these impacts was not necessarily determined by the content of the change, and (3) approaches were suggested to further good working relationships with facilities.

Chapter 8

THE COST OF THE PSRO LTC DEMONSTRATION PROJECTS

INTRODUCTION

The ten demonstration sites exhibited considerable variation in total level of funding as well as in the way funds were allocated among various activities and budget line items. This chapter presents cost data for the ten sites in a uniform format intended to facilitate comparison among sites and assessment of the relative costs of the different activities undertaken at the various sites. However, as discussed in detail below, limitations of the cost data collected during the project make comparisons among sites difficult.

THE COST DATA BASE

Cost data were collected by means of a questionnaire that called for information on the level of effort (in full-time equivalents or FTEs) devoted to LTC activities by staff, consultants, and volunteers (App. E). These were distributed across the different types of review activity. Wage rates and non-labor costs as well as review activity level costs were also collected. To avoid front end loading costs and to give the sites the best chance of presenting operating costs at a time of maximal efficiency, each site was asked to describe costs for a period during the demonstration they judged to be a state of maximum steady activity. Data were then expressed on a per-year basis.

The questionnaire was mailed to each site before the second site visit so that PSRO staff could assemble information and the cost information was actually collected during the second site visit. In practice, some sites completed the questionnaire entirely on their own (and it was reviewed by a site visitor), some filled it out partially in advance of the site visit and completed it during the visit, and some filled it out completely during the visit. Hence, there were varying degrees of interpretation of and assistance with the questionnaire by Rand project staff. Subsequent clarifications required during the analysis stage were obtained by telephone. The data contained in the questionnaires were manually tabulated.

ECONOMIC ISSUES AND LIMITATIONS

Ideally, the objective of this cost analysis would be to estimate the marginal costs and benefits of PSRO LTC review to provide a basis for evaluating the efficiency of the various approaches taken by the demonstration sites. Both the costs and benefits should be on the margin, i.e., resulting from the addition of LTC review to an existing acute care review program. If there is joint production of LTC with other PSRO activity, then joint costs should be identified as well as "pure" costs of

LTC review. The estimated costs and benefits should also distinguish between start-up and steady-state costs of LTC review, to allow for extrapolation to a mature program. The estimates should include all costs and benefits from LTC review, no matter to whom they accrue. Costs and benefits should be broken down by the different types of LTC-related activity in order to contribute to our understanding of cost variations among the sites and the cost implications of different approaches to LTC review. Unfortunately, the cost analysis tabulations presented in this chapter necessarily depart from the ideal described above in several respects.

Marginal and Joint Costs

Sites were instructed to complete the questionnaire using "true" costs reflecting the actual resources applied to LTC activities. The cost estimates therefore represent average cost, including some elements that are marginal (i.e., would not have been incurred in the absence of LTC activity) and some elements that are joint (i.e., contribute to both LTC and other activities), and possibly some elements that are simply misallocated. For staff salaries, the sites were asked to estimate the FTEs devoted to LTC in each personnel category, then estimate the distribution of effort for each type of LTC activity. Costs were then constructed by multiplying the FTEs in each personnel/activity cell by a site-specific wage rate for each personnel category. Thus, if the PSRO executive director spent 10 percent of his time on LTC and, of that, 10 percent was devoted to LTC CSR, then 1 percent of the executive director's salary was attributed to CSR. This is not clearly a marginal cost, since the executive director would be there in the absence of LTC activities. On the other hand, the executive director's time is a resource consumed by LTC activities, so it should be reflected in LTC costs. To determine whether it is a joint cost, pure marginal cost, or misallocation, it would be necessary to know what the executive director did with that 10 percent of his time prior to the onset of LTC activities—whether it was slack time allocated among his other activities, whether he is now working 10 percent longer hours, or whether there was a reallocation of duties among the staff, freeing 10 percent of his time. The analysis did not address these questions.

The sites were told to estimate cost allocations in whatever way they felt would be most accurate. Some based their estimates on detailed records, others on recollection. Some reported figures consistent with their official demonstration contract budgets, some reported figures that may not be consistent with those budgets, and some reported the budget figures, but said they were not a good estimate of "real" costs. In addition, variation in accounting procedures made it impossible for all sites to report costs on a comparable basis. For example, one site recorded all staff time spent in meetings as one activity, regardless of the purpose of the meeting, while other sites allocated meeting time according to the purpose of the meeting. Some sites included staff vacation and sick leave in salaries, some sites reported these costs as a separate category, and some sites included them with other elements in an administrative cost category.

Staff time and committee time were included in the resource costs of LTC review, but the effort of volunteers other than committee members was not included in the tabulations. The level of effort excluded in this way, however, was negligible. When PSROs paid facilities for their role in LTC review, these amounts are included in the tabulations. However, any impacts of LTC activities on the costs incurred by facility or by other government review programs were not assessed.

Definition of Personnel and Activity Categories

Uniform definitions of the personnel categories were not established and the categories in use at some sites were not always easy to reconcile with the categories on the questionnaire. To tabulate the data, it was necessary to combine some site-defined categories into a smaller number of broader categories. Some sites may have fitted their own personnel categories into those identified on the questionnaire in ways that are not comparable across sites.

The activity categories were not treated uniformly across sites. One reason was variation in accounting conventions, mentioned above. In addition, because some sites were unable to allocate costs among certain review activities that are closely related, they reported costs for aggregations of the questionnaire categories. PAR was often performed by the acute care review staff, and its costs were not reported on the questionnaire, although the PAR activity is included in tabulations of LTC activity. It is also possible that some sites did include the costs of PAR in LTC costs even though it was conducted by the acute care review staff, and in some sites PAR was conducted by LTC staff, so both the cost and the activity were included in the LTC tabulations. In the allocation of committee members' effort among activities, MCE studies and data were not identified on the questionnaire, as they were for staff effort. Some sites identified the MCE effort of committees on their own initiative, and others showed large allocations to the "other" category; some of these may have included the MCE effort.

Start-up Versus Steady-state

The demonstration covered a period of two years (27 months at one site). During the initial part of that period, a significant proportion of LTC costs were probably devoted to one-time-only activities required to initiate LTC review. Recognizing the distortions produced by the requirements of program start-up, we asked each site to report costs and activities for a self-selected period "after the program was geared up and most stabilized." Some sites complied with these instructions, making their own selection of a stabilized time period and reporting total figures for that period. Some sites reported data for the entire two-year period, and in these cases, the two-year values were used in our tabulations. One site reported estimates for several points and, in this case, a "representative" period was selected jointly by the site and us. In all of these cases, the data were converted to estimated FTEs, annual costs, or annual activity levels. As a result of this procedure, the estimated annual costs shown in our tabulations are unlikely to compare closely to the official project budgets. The forced selection of a "stabilized" period was often fairly arbitrary because no objective standard of stability was established, and at some sites there was no period that seemed especially stable.

Other Issues

At some sites, there were significant expenditures for "special studies," some done by the PSRO staff, some under contract to the PSROs, and some by a combination of these means. Wherever these studies were identified as subcontracts, the subcontracts are shown under administrative costs as "consultants" along with the data processing, accounting, and legal costs. When they were contracted but not identified, they appear in the "other" category of administrative costs. When they involved staff time, they appear as "other" or "administration" in the staff costs tables.

Wherever ranges were specified by the sites (e.g., for salaries or activity levels), the midpoint was used. When the total number of committee meetings was specified, they were assumed to have occurred over a two-year period. When both the total number and the frequency were given, the frequency was used to find the annual number of meetings. One site identified an activity category called "travel." Costs in this category were distributed over the remaining categories proportional to the costs reported in the other categories. It is assumed that the review activities of physician advisors reported on page four of the questionnaire were in addition to any time reported for physician committee members on page five of the questionnaire.

In the activity level tabulations, it is important to be aware of the distinction between number of reviews, number of patients, and number of admissions. The questionnaire requested data on both number of reviews and number of patients. This distinction is important because the intensity of review (number of reviews per patient or per admission) varies considerably among the sites. In practice, it appears that most sites supplied the number of admissions in the space provided for the number of patients. As a result, the value shown for number of patients may include multiple admissions for some individual patients. Unlike cost information, which was collected for a period of "steady state," the activity information was collected for the whole demonstration period.

Finally, we thought it important to get a sense of the number of patients reviewed (apart from number of reviews performed) and this figure was not easily estimated. The actual number of reviews was a matter of PSRO statistical record, but most PSROs counted patients as new patients if they transferred from Medicare to Medicaid or if they were admitted to a hospital and returned to the nursing home. Futhermore, we later learned that San Joaquin kept records of the number of times a patient was reviewed within an LOC status and when that patient changed status (e.g., SNF to ICF), he was recounted. For this site, the number of patients reviewed was obviously an overcount and we have no way of knowing whether other PSROs used "patients reviewed within a status" to estimate total patients reviewed.

TABULATIONS

The cost and activity level data has been tabulated in seven tables:

1. Staff Level of Effort, by Activity
2. Staff Level of Effort, by Personnel Category
3. Staff Costs, by Activity
4. Committee Level of Effort, by Activity
5. Administrative Costs
6. Cost Summary
7. Activity Levels

All level-of-effort tabulations are expressed as FTEs (i.e., person-years per year), all cost tabulations are expressed in estimated thousands of dollars per year, and the activity level tabulation is expressed as events per year. We deliberately chose to minimize comparisons by actual dollar costs because of the wage rate differences across sites. Each of the tabulations is discussed briefly below.

Table 8.1 shows staff level of effort by activity. Physician advisor time spent in review is included here, although they were consultants to, rather than employees of, the PSROs. The total staffing levels ranged from 6.4 FTEs in Minneapolis to 20.13 FTEs in Vermont, with a median value of 7.95. The pattern of effort distribution across activities shows considerable variation, with the percent devoted to all review activities ranging from 20.6 percent in Vermont to 77.6 percent in Baltimore, with a median value of 41.4 percent.

In this table, the total values are more reliable than the allocations to each activity. At least some of the variation in the pattern of effort by activity is due to non-comparability of data. For example, the large percentage of effort devoted to "administration" in Vermont includes all office meetings, even though some of these dealt with review, MCE studies, and other topics. This could not be avoided since the basic data records (time sheets) in Vermont show the data aggregated this way, and that site was unable to estimate how the meeting time should be allocated among the other activities.

Table 8.2 shows staff level of effort by personnel category. For clarity, zero values are not shown on this table. Considerable variation in the allocation of effort is again encountered. The percentage of effort expended by review personnel varied from 29.5 percent in Colorado to 76.4 percent in the Bronx. Administrative costs ranged from 6.7 percent in South Carolina to 26.7 percent in Colorado. The allocation to technical personnel, which included physician advisor effort in the review process, ranged from 2.8 percent in the Bronx to 30.2 percent in Colorado.

Comparison of Tables 8.1 and 8.2 further suggests that the PSROs varied in their manner of accounting for the activities of personnel and in their general classification of positions. For example, in Vermont 48 percent of personnel fell into the review category but only 21 percent of activities were review activities. Similarly, in Colorado, 26 percent of the LTC personnel fell into the administration category but 61 percent of activities of all personnel were devoted to administration. Such discrepancies could mean that personnel were being deployed differently than one would predict from their job titles, but more probably they are explained by the ways the staff kept track of their time. These observations suggest caution in comparing deployment of personnel at the different sites based on current record-keeping.

Table 8.3 shows estimated annual PSRO staff costs by activity (in $1000s). These are estimates of annual costs under steady-state conditions, and consequently they do not correspond to actual budget figures for any period. Total costs per year range from $56,690 in Colorado to $291,000 in Vermont. The percentage of costs directly attributable to review activity ranged from 22.9 percent in Utah to 70.9 percent in San Joaquin. The share for administration ranges from 13.3 percent in Minneapolis to 63.0 percent in Vermont. These patterns of cost by activity may differ from the patterns of level of effort by activity because of variation across the sites in average wage rates for the different personnel categories.

Table 8.4 shows level of effort and cost by activity for any committee or consultant engaged in LTC activities who was *not* part of the PSRO staff. Level of effort

Table 8.1

Staff Level of Effort by Activity

Activity	Baltimore		Bronx		Charles River		Colorado		Minneapolis		Multnomah		San Joaquin		South Carolina		Utah		Vermont		Median
	FTE[a]	%[b]	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	
PAR	2.12	14.4	0	0	0	0	2.00	29.2	1.55	24.2	.80	10.2	.70	7.1	0	0	0	0	.03	0.1	
AR	8.26	55.9	3.26	45.2	.80	11.8			0	0	1.20	15.3	6.80	68.7	.22	1.2	0	0	.82	3.4	
CSR					1.40	20.6			.75	11.7	1.65	20.4			8.08	43.4	0	0	2.35	9.9	
CQA	0	0	0	0	0	0					.40	5.1			2.31	12.4	2.10	26.0	.95	4.0	
Review Total	10.38	70.3	3.26	45.2	2.20	32.4	2.00	29.2	2.30	35.9	4.00	51.1	7.50	75.8	10.61	57.0	2.10	26.0	4.15	17.4	4.14
Education	.80	5.4	.58	8.1	1.85	27.2	.01	0.1	.70	10.9	.10	1.3	0	0	.72	3.9	0	0	.97	4.1	2.7
MCE	.96	6.5	.67	9.3	.65	9.6	.12	1.8	.60	9.4[c]	.17	2.2	.19	1.9	1.38	7.4	1.60	19.7	.07	0.3	4.8
Data	.32	2.2	.94	13.0	.25	3.7	.55	8.1	2.10	32.8	1.58	20.2	1.43	14.5	2.60	14.0	1.74	21.5	3.5	14.7	13.8
Administration	2.31	15.6	1.05	14.5	1.85	27.2	4.17	60.8	.70	10.9	1.98	25.3	.77	7.8	3.32	17.8	2.64	32.7	14.14	59.4	21.75
Other	0	0	.72	9.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.96	4.0	0
Total	14.77	100	7.22	100	6.80	100	6.86	100	6.40	100	7.83	100	9.90	100	18.62	100	8.08	100	23.79	100	7.92

[a] Full-time equivalents.

[b] Proportionate effort by activity type.

[c] Earlier we indicated that Minneapolis did not perform MCE studies; however POQA had MCE-like characteristics.

Table 8.2

Staff Level of Effort by Personnel Category

Personnel Category	Baltimore		Bronx		Charles River		Colorado		Minneapolis		Multnomah		San Joaquin		South Carolina		Utah		Vermont	
	FTE[a]	%[b]	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
Executive Director	0.25	1.7			0.2	2.9	1.83	26.7			0.2	2.6	0.55	5.6	0.25	1.3	0.15	1.9	0.5	2.2
Administrator									0.4	6.3	0.2	2.6					0.5	6.2	1.0	4.3
LTC Director	1.0	6.8	0.9	12.5	1.0	14.7			1.0	15.6	1.0	12.8	0.64	6.5	1.0	5.4	1.0	12.3	1.0	4.3
Other Administrative																				
Subtotal: Administrative	1.25	8.5	0.9	12.5	1.2	17.6	1.83	26.7	1.4	21.9	1.4	18.0	1.19	12.0	1.25	6.7	2.65	20.4	2.5	10.8
RC Supervisor			0.2	2.8	1.0	14.7	2.02	29.5	1.0	15.6			6.3	63.7	3.0	16.1			5.0	21.7
RC: RN	8.0	54.2	4.4	61.1	3.0	44.1					4.0	51.1			10.25	55.1	3.0	37.0	3.0	13.0
SW									1.0	15.6									3.0	13.0
Other Review			0.9	12.5																
Subtotal: Review	8.0	54.2	5.5	76.4	4.0	58.8	2.02	29.5	2.0	31.2	4.0	51.1	6.3	63.7	13.25	71.2	3.0	37.0	11.0	47.7
Medical Director	0.25	1.7	0.2	2.8	0.5	7.4	2.07	30.2			0.2	2.6			0.25	1.3				
Data Manager	0.10	0.7							1.0	15.6					0.50	2.7	1.0	12.3	0.5	2.2
Consultants	0.17	1.2	(c)										(c)		0.87	4.7			1.06	4.6
Other Technical	1.0	6.8									1.73	22.1			1.0	5.4	0.46	5.7	1.0	4.3
Subtotal: Technical	4.0	10.3	0.2	2.8	0.5	7.4	2.07	30.2	1.0	15.6	1.93	24.7	(c)		2.62	14.1	1.46	18.0	2.56	11.1
Secretary	1.0	6.8	0.5	6.9	1.0	14.7	0.94	13.7	1.0	15.6	0.4	5.1	2.4	24.3	1.0	5.4	1.0	12.3	2.0	8.7
Clerk	3.0	20.3	0.1	1.4					1.0	15.6	0.1	1.3			0.35	1.9	1.0	12.3	4.5	19.5
Bookkeeper					0.1	1.5									0.15	0.8			0.5	2.2
Other Clerical																				
Subtotal: Clerical	4.0	27.1	0.6	8.3	1.1	16.2	0.94	13.7	2.0	31.2	0.5	6.4	2.4	24.3	1.5	8.1	2.0	24.6	7.0	30.4
Total	14.77		7.2		6.8		6.86		6.4		7.8		9.9		18.62		8.1		23.06	

[a] Full-time equivalents.

[b] Proportionate effort by personnel category.

[c] = < ,1 FTE.

Table 8.3

STAFF COSTS BY ACTIVITY
(In thousands of dollars)

Activity	Baltimore		Bronx		Charles River		Colorado		Minneapolis		Multnomah		San Joaquin		South Carolina		Utah		Vermont		Median
	$	%[a]	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	%
PAR	20.95	*10.7*	0	*0*	0	*0*	22.26	*39.3*	22.07	*22.2*	10.80	*9.8*	10.08	*7.2*	0	*0*	0	*0*	0.40	*0.1*	
AR	0	*0*	0	*0*	10.80	*10.6*			0	*0*	16.20	*14.8*	89.81	*63.7*	4.95	*2.3*	0	*0*	17.36	*5.2*	
CSR	104.66	*53.3*	50.48	*45.0*	18.90	*18.5*			12.82	*12.9*	21.60	*19.7*			80.52	*38.2*	0	*0*	50.59	*15.3*	
CQA											5.40	*4.9*			24.70	*11.7*	26.20	*22.9*	14.85	*4.5*	
Review Total	125.61	*63.9*	50.48	*45.0*	29.70	*29.1*	22.26	*39.3*	34.89	*35.1*	54.00	*49.2*	99.89	*70.9*	110.17	*52.3*	26.20	*22.9*	83.20	*25.1*	*42.2*
Education	10.40	*5.3*	8.16	*7.3*	29.90	*29.3*	0.07	*0.1*	10.52	*10.6*	4.60	*4.2*	0	*0*	12.23	*5.8*	0	*0*	4.80	*1.4*	*4.8*
MCE	11.81	*6.0*	12.49	*11.1*	13.40	*13.1*	0.75	*1.3*	10.15	*10.2*	1.36	*1.2*	4.52	*3.2*	16.00	*7.6*	24.47	*21.4*	1.42	*0.4*	*6.8*
Data	9.36	*4.8*	11.49	*10.3*	10.00	*9.8*	0.15	*0.3*	30.55	*30.8*	13.11	*12.0*	16.17	*11.5*	25.78	*12.2*	22.78	*19.9*	35.00	*10.6*	*10.9*
Administration	39.30	*20.0*	17.56	*15.7*	19.00	*18.6*	33.45	*59.0*	13.16	*13.3*	36.59	*33.4*	20.39	*14.5*	46.64	*22.1*	40.84	*35.7*	193.27	*58.4*	*21.0*
Other	0	*0*	11.89	*10.6*	0	*0*	(b)	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	13.20	*4.0*	*0*
Total	$196.48		$112.08		$102.00		$56.69		$99.28		$109.66		$140.97		$210.82		$114.29		$330.90		

[a] Proportionate cost by activity type.

[b] Less than $10.

Table 8.4

Committee Level of Effort and Cost by Activity

Activity	Baltimore FTE[a]	Baltimore %[b]	Bronx FTE	Bronx %	Charles River FTE	Charles River %	Colorado FTE	Colorado %	Minneapolis FTE	Minneapolis %	Multnomah FTE	Multnomah %	San Joaquin FTE	San Joaquin %	South Carolina FTE	South Carolina %	Utah FTE	Utah %	Vermont FTE	Vermont %
PAR	.0468	*7.8*					.0935	*25.0*	.1192	*22.7*	.0077	*5.9*			.0450	*5.8*			.0019	*2.3*
AR									.0367	*7.0*	.0185	*14.1*	.0613	*18.2*					.0313	*37.4*
CSR	.0934	*15.5*			.0093	*10.0*	.2180	*58.3*	.0766	*14.6*	.0738	*56.4*			.3150	*40.5*			.0313	*37.4*
CQA	.1714	*28.5*	.0362	*47.1*	.0093	*10.0*	.0410	*11.0*	.0338	*6.4*							.0346	*50.0*		
Review Total	.3116	*51.8*	.0362	*47.1*	.0186	*20.0*	.3525	*94.2*	.2663	*50.7*	.1000	*76.4*	.0613	*18.2*	.3600	*46.3*	.0346	*50.0*	.0645	*77.2*
Education	.0641	*10.6*			.0093	*10.0*			.0616	*11.7*					.1044	*13.4*			.0067	*8.0*
MCE			.0155	*20.2*	.0093	*10.0*									.0433	*5.6*	.0346	*50.0*		
Data Administration	.0884	*14.7*	.0090	*11.7*	.0554	*59.8*			.1421	*27.1*	.0193	*14.7*							.0038	*4.5*
Other	.1379	*22.9*	.0162	*21.1*			.0217	*5.8*	.0553	*10.5*	.0116	*8.9*	.2752	*81.8*	.2702	*34.7*			.0086	*10.3*
Total	.6020		.0769		.0926		.3742		.5253		.1309		.3365		.7779		.0692		.0836	
% of Total FTEs Reimbursed	47.0		0		50.2		100		0		70.5		18.2		96.4		100		100	
Estimated Actual Annual Cost	$14,640		0		$3,793		$21,406		0		$8,447		$2,035		$67,884		$6,333		$4,048	
Estimated Full Annual Cost	$29,297		$6,114		$5,903		$21,406		$28,998		$10,745		$14,628		$69,915		$6,333		$4,048	
% Relative Contribution (Actual ÷ Full)	50.1		0		64.3		100		0		78.6		13.9		97.1		100		100	
Absolute Contribution (Full-Actual)	$14,607		$6,114		$2,110		0		$28,998		$2,298		$12,593		$2,031		0		0	

[a] Full-time equivalents.

[b] Proportionate effort by activity type.

here was constructed from data on the composition of committees, and the duration and frequency of committee meetings. Level of effort is shown in FTEs. The display of these data to four decimal places should not be taken as implying high levels of accuracy. Rather, because the figures were built up from many very small elements, rounding error would have been very great if calculations were conducted with less precision. Total level of committee effort ranged from .07 FTE in Utah to .78 FTE in South Carolina.

Costs were developed in two ways. "Estimated Actual Annual Cost" was constructed in exactly the same way as staff costs, except that here some committee members were paid and others served without pay. The "actual" cost estimates reflect this difference, attributing actual fees paid to those committee members who were paid and no fee to those who were not paid. In most cases, this amounted to a distinction between physicians, who were paid (usually $44/hour), and non-physicians, who were not paid. There were exceptions to this rule: Some sites paid all committee members, some paid none, and some paid only certain physicians while others served without compensation.

Because of the variation in patterns of payment to committee members, we developed another measure of committee cost, "Estimated Full Annual Cost." This figure is equal to the actual cost plus compensation attributed to unpaid committee members at $44/hour for physicians and $22/hour for non-physicians. The difference between these two figures is labeled "Absolute Contribution" in the table; it is a measure of the value of services contributed by unpaid members of committees.

Actual costs ranged from none in the Bronx and Minneapolis to $67,884 in South Carolina (which had the highest level of committee effort and paid nearly all members). Full costs ranged from $4,048 in the Bronx to $69,915 in South Carolina. Contribution ranged from none in Colorado, Utah, and Vermont to $28,998 in Minneapolis.

Table 8.5 shows estimated annual administrative costs. These appear to be subject to considerable variation in definition of the cost categories by the sites, especially for the "Fringe Benefits," "Consultant," and "Other" categories. For example, all sites presumably provided fringe benefits, but only two sites explicitly identified this cost, while one other site indicated that it was included in the "Other" category. In other sites this cost may have been included in the wage rates used to estimate staffing costs, or it may not have been included anywhere. Another factor contributing to variation is the presence at some sites of substantial subcontracts for data processing of special studies. Where these costs were explicitly identified, they were included in the "Consultants" category, but in some cases where they were not explicitly identified, they may appear in the "Other" category. Subject to these considerations, total administrative costs ranged from $17,252 in Multnomah (a delegated review system under the demonstration) to $147,644 in Minneapolis.

Table 8.6 shows a cost summary of the data presented in the preceding tables. Total cost is shown two ways: using the actual committee cost and using the "full" committee cost estimate described earlier. With actual committee cost, estimated total annual cost ranges from $135,359 in Multnomah to $422,723 in Vermont. Using full committee costs, the totals range from $137,657 in Multnomah to the same $382,823 in Vermont. Administrative costs as a proportion of total cost (using actual committee cost) ranges from 8.9 percent in Baltimore to 59.8 percent in

Table 8.5

ADMINISTRATIVE COSTS

Item	Baltimore		Bronx		Charles River		Colorado		Minneapolis		Multnomah		San Joaquin		South Carolina		Utah		Vermont	
	$[a]	%[b]	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
Office Space	10,000	48.5	10,500	37.4	10,000	23.1	3,616	3.9	10,000	6.8	2,904	16.8	4,668	18.0	3,835	7.6	5,646	18.2	14,671	16.7
Supplies	600	2.9	682	2.4	8,195	19.0	709	0.8	2,750	1.9	819	4.7	672	2.6	1,042	2.1	1,506	4.8	6,212	7.1
Postage			750	2.7	320	0.7	570	0.6	2,000	1.4	160	0.9	792	3.1	2,079	4.1	114	0.4	4,080	4.6
Printing			1,346	4.8	7,000	16.2	4,860	5.2	14,000	9.5	829	4.8	3,084	11.9	7,202	14.3	2,099	6.8	5,002	5.7
Telephone	1,000	4.9	1,092	3.9	4,800	11.1	776	0.8	4,000	2.7	586	3.4	1,356	5.2	2,211	4.4	1,051	3.4	10,894	12.4
Travel	4,888	23.7	4,504	16.0	9,840	22.8	1,658	1.8	13,615	9.2	3,056	17.7	5,016	19.4	32,650	64.7	3,023	9.7	24,241	27.6
Furniture & Equipment	1,870	9.1	1,165	4.1	3,051	7.1			4,174	2.8	56	0.3					1,771	5.7		
Fringe Benefits							25,206	27.1									10,816	34.8		
Consultants			5,452	19.4			10,143	10.9	62,294	42.2			6,500	25.1			3,429	11.0		
Other	2,250	10.9	2,603	9.3			45,433	48.9	34,811	23.6	433	2.5	3,828	14.8	1,432	2.8	1,611	5.2	22,676	25.8
Total	20,608		28,094		43,206		92,971		147,644		17,252		25,916		50,451		31,066		87,775	

[a] Full-time equivalents.

[b] Proportionate effort by administrative cost category.

Table 8.6

COST SUMMARY
(Percent shown on basis of total with actual committee costs)

	Baltimore		Bronx		Charles River		Colorado		Minneapolis		Multnomah		San Joaquin		South Carolina		Utah		Vermont	
	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
Staff	196,480	84.8	112,080	80.0	102,000	68.5	56,690	33.1	99,280	40.2	109,660	81.0	140,970	83.5	210,820	64.0	114,290	75.3	330,900	78.2
Actual Committee	14,640	6.3	0	0	3,793	2.5	21,406	12.5	0	0	8,447	6.2	2,035	1.2	67,884	20.6	6,333	4.2	4,048	1.0
Full Committee	29,297		6,114		5,903		21,406		28,998		10,745		14,628		69,915		6,333		4,048	
Administrative	20,608	8.9	28,044	20.0	43,206	29.0	92,971	54.3	197,644	59.8	17,252	12.7	25,916	15.3	50,451	15.3	31,066	20.5	87,775	20.8
Total with Actual Committee	231,728		140,174		148,999		171,067		246,924		135,359		168,921		329,155		151,689		422,723	
Total with Full Committee	246,335		146,288		151,109		171,067		275,922		137,657		181,514		331,186		151,689		422,723	

Minneapolis. This wide variation is probably due in part to the factors discussed above in connection with the definition of administrative costs. For example, Vermont included all meetings related to review programs in the administrative column.

Finally, Table 8.7 shows review activity levels in terms of number of reviews per year and number of patients represented by those reviews. The activity levels represent the actual volume of reviews reported by each PSRO during the two-year period expressed as a per year figure. Several factors, discussed earlier in this chapter, limit the comparability of these measures across sites. Given those factors, total reviews ranged from 464 in Minneapolis to 36,390 in South Carolina, while the number of patients reviewed ranged from 464 in Minneapolis to 11,350 in South Carolina. In tabulating the number of patients here, the number of Medicaid patients specified by a site was added to the number of Medicare patients; this procedure will tend to overestimate the number of patients since some patients are reviewed for both Medicare and Medicaid. Although we recognize that multiple reviews are performed per patient, contributing to the total volume of activity, an indication of the total number of patients reviewed helps put the scope of the work into perspective. (We were not able to calculate, even roughly, the number of patients reviewed at Charles River.)

IMPLICATIONS

These data support our observations from other aspects of the evaluation as to the wide variation in type and intensity of effort found across the ten sites. Even allowing for the differences attributable to varying definitions and interpretations of specific components, the breadth of the spectrum is impressive. Unfortunately, we are not in a position to weigh these costs against any valid comparable measures of effectiveness to suggest the most efficient strategies for LTC review. We have already acknowledged the deliberate artificiality of the cost data. We have similar reservations about any stringent effort to use the volume of reviews as a measure of output, particularly when the effectiveness of such reviews has not been established.

As shown in Table 8.8, the costs per review (and the costs per patient reviewed) vary substantially by site. Interpretation of these figures is difficult for several reasons. First, the cost information was collected by extrapolating costs during a steady state; the activity volume was collected by actual review counts. This means that the cost per review is most accurate in those sites that were most nearly "up and running" throughout the demonstration. There is also a danger inherent in using cost per review as a measure of development efforts that required lead time to mount programs.

The figures from South Carolina reflect most accurately the costs of an ongoing program and also represent a lower-bound figure for an operational review program. At a cost of approximately $9 per review and $60 per patient, the South Carolina PSRO provided 100 percent review, primarily on a non-delegated basis, in all the facilities in the state. The program was characterized by record review at the regular intervals required by the federal guidelines, a concurrent quality assurance effort associated with the utilization review, and an MCE program with two MCE studies per facility per year. The data system was minimal, limiting the

Table 8.7

REVIEW ACTIVITY LEVELS FOR MEDICARE AND MEDICAID PATIENTS
(annualized figures)

	Baltimore	Bronx	Charles River	Colorado	Minneapolis	Multnomah	San Joaquin	South Carolina	Utah	Vermont
Medicare										
PAR	1,403					36	1,525[a]			
AR		1,586	80			789	283[a]	625	No	No
CSR	892	735	76			1,414	(c)	1,462		
CQA								1,112	Review	Review
Total reviews	2,295	2,321	156	(b)	(b)	2,239	(c)	3,199		
Number of patients	1,500	1,586				770	(c)	425		
Medicaid										
PAR	1,433									
AR		No	537			99	137[a]	3,691		1,407
CSR	1,706	Review	2,898	(b)	(b)	305	237[a]	26,000		4,172
CQA							(c)	3,500	1,516	2,358
Total reviews	3,139		3,435			404	(c)	33,191	1,516	7,937
Number of patients	2,000					86	(c)	5,250	700	3,300
Total										
PAR	2,836			2,436	402	36	1,662[a]			
AR		1,586	617			888	520[a]	4,316		1,407
CSR	2,598	735	2,974	2,262		1,719	3,148[d]	27,462		4,172
CQA				735	62			4,612	1,516	2,358
Total reviews	5,434	2,321	3,591	5,433	464	2,643	5,330[e]	36,390	1,516	7,937
Number of patients	3,500	1,586	(b)	893	464	856	2,012[d]	5,675	700	1,437

[a] Based on 18 months.

[b] Information on this variable not collected by the PSRO.

[c] Data maintained internally by PSRO but aggregated for reporting.

[d] Based on 27 months.

[e] Sum of figures based on 27 months and figures based on 18 months.

Table 8.8

ESTIMATED COSTS PER REVIEW AND PER PATIENT REVIEWED BY SITE AND PROGRAM DESCRIPTION

Site	Cost per review[a]	Cost per patient reviewed	Program Characteristics
Baltimore	$45.33	$70.38	PAR & CSR in Chronic Disease Hospitals & nursing home review in last months of demonstration; large scale surveys; intensive efforts in a single nursing home; nurse reviewers & bedside assessment.
Bronx	$63.03	$92.24	AR and CSR for Medicare patients; special studies in PAR; criteria development.
Charles River	$42.08	unknown	Voluntary program with regular review of Medicare & Medicaid patients; MCE studies on areawide basis; bedside assessment.
Colorado	$31.49	$191.56	Voluntary program in selected homes; emphasized repeated reviews in first six months of nursing home stay; nurse practitioner/social worker teams & bedside assessment; special studies; PAR in selected hospitals.
Minneapolis	$594.66	$594.66	Experimental program in a small number of facilities; research and development was major focus of demonstration.
Multnomah	$52.08	$160.80	Delegated review system; PSRO monitored & provided assistance with MCE studies.
San Joaquin	$34.04	$90.22	Binding medicare review and regular Medicaid review at intervals as if binding; record review conducted by nurses; MCE studies; quality assurance study.
South Carolina	$9.10	$58.36	Binding statewide program for Medicare and Medicaid; some delegated but 100 non-delegated; record review performed by nurses; 2 MCEs per facility per year.
Utah	$100.06	$216.00	Voluntary program for Medicaid patients in selected facilities; quality assurance study; review by nurses.
Vermont	$53.26	$128.10	Binding statewide review for Medicaid patients; extensive efforts to develop data system; research agenda concerning dischargeability involved primary data collection; nurse/social worker teams performed bedside assessments.

[a] Cost per review was calculated by dividing the total number of reviews into the total cost of the program (including the cost of professional time that was volunteered during the demonstration). The number of reviews excluded reviews for special studies or MCE studies.

kind of information that could be profiled. South Carolina's review system used the same kind of personnel and similar methodology to PSRO hospital review, which has recently been calculated to cost $18.31 for each delegated review and $16 for each non-delegated review (OPEL, 1978). PSRO LTC review is more decentralized and could be expected to cost more than hospital review. We therefore suggest that the South Carolina figure represents the low end of the spectrum, perhaps associated with the wage scale in South Carolina as well as the nature of the program.

Other PSROs have higher costs per review (and per patient reviewed). San Joaquin and Colorado cost about $35 per review. Colorado's cost per patient reviewed was high compared with its unit costs; this reflects the fact that repetitive reviews were performed within the first six months of the patient's admission. As an operating program on a statewide basis, the Vermont system was fairly expensive at about $53 a review; the difference between its costs and the much cheaper costs of South Carolina, an analogous rural statewide area with binding review, can partly be attributed to Vermont's use of a bedside assessment by a team of reviewers, but also to the extensive research agenda adopted by VPSRO during the demonstration. A purely developmental program such as Minneapolis, cast in the form of a research project, cannot be appropriately compared to the others; the cost of almost $600 per review serves to emphasize that cost per review figures are not appropriate in discussion of a program with large front-end costs in developing a method that was then tested experimentally with a small number of patients. Less dramatically, this comment also pertains to most of the other sites.

Although statistics on cost per review or cost per patient reviewed lend themselves to use for comparative purposes, we would strongly urge caution in doing so. Low costs per review might be the result of inefficiency; repeated unnecessary reviews can reduce the unit cost but to no useful end. Similarly, costs per patient reviewed say nothing about what one is getting for the investment in terms of better care or more appropriate placement.

If HSQB is interested in comparing costs of programs across PSROs, all PSROs should follow the same instructions for allocation to cost centers. Similarly, a uniform format will be needed to calculate the number of patients within the review system. Although calculation of the number of reviews is a less difficult and less ambiguous measure than the number of patients reviewed, we strongly urge that a method be developed for gathering the latter statistic. In LTC, the number of patients in the review system over a period of time gives an important perspective on the population for PSRO LTC review that cannot be gleaned from a mere count of reviews themselves.

By the same token, the wide range of costs among the PSRO projects cannot be justified in the absence of stronger evidence of differential effectiveness. In the end, as the projects move to more operational programs rather than developmental efforts, we are left with what has become an all too familiar refrain in this report: The PSRO LTC review program must define its goals more clearly and develop a means for assessing progress toward them.

Finally, we emphasize that this chapter has been concerned with estimating the costs incurred by PSRO LTC review only. It would be misleading to consider all these costs as new public expenditures. In many instances, the PSRO-related costs might replace costs already incurred by review programs mandated by Medicare and Medicaid and carried out by fiscal intermediaries or state agencies.

Because the projects studied here were demonstrations, we could not readily assess the extent to which the PSRO function was substitutive rather than additive; some of the demonstrations were partial programs only, and even those with binding review were sufficiently new that duplicative review systems tended not to be fully dismantled. Furthermore, figures for the costs of such programs as MR and IPR are difficult to isolate or to extrapolate nationally, in contrast to PSRO budget figures, which constitute a visible line item. Although beyond the scope of this chapter, any effort to assess the ultimate fiscal burden of an operational PSRO LTC review program must take into account both the cost of what is added and the cost of what is subtracted from other governmental expenses.

References

Office of Planning, Evaluation, and Legislation, *PSRO: An Initial Evaluation of the Professional Standards Review Organization, Vol. I: Executive Summary,* Report #77-12, Washington, D.C., 1978.

Chapter 9

CONCLUSIONS AND RECOMMENDATIONS

In developing recommendations we have confined ourselves to the issues of utilization review and quality assessment in long-term care; we are not addressing the myriad deficiencies of LTC itself or the alternative uses for resources now being spent on monitoring and review activities.

SUMMARY OF METHOD

A multidisciplinary research team made two site visits to each of the ten demonstration PSROs; the first visit was used to meet with PSRO staff, committees, and board members and the second visit involved an expanded series of contacts in the community. We used semi-structured interviews to investigate ways of demonstrating effects of the long-term care review programs.

In addition, we conducted a number of consistent procedures for each site. These included a substudy of forms and criteria, an assessment of MCE studies across sites, a study on the costs of the LTC review projects, and a telephone study of nursing home personnel in the ten areas to solicit their perceptions of the PSRO review activity. Representatives of each demonstration were also invited to a conference at The Rand Corporation where the experiences of each project were used to articulate points of consensus and disagreement about LTC review methods and purposes.

Finally, we examined materials that showed promise of adding insight about ways in which PSRO LTC review might make an impact on long-term care. This included review of reports written by the demonstration projects themselves, reanalysis of data collected by some demonstrations, and primary analysis of review data from other sites. The latter took two forms: (1) manual aggregation of previously unaggregated materials and (2) computer-assisted analysis of review data.

Chapter 3 of this volume describes our general method in more detail; in addition, our approach to data analyses is explained at the points in the text where those findings are presented.

LIMITATIONS OF THE STUDY

A few caveats are necessary to place our findings in perspective. First, our comments are based on the study of ten PSRO demonstration projects in LTC review that conducted developmental activities between October 1976 and September 1978. Although these PSROs probably represent those that have been most active in conducting LTC review, we have not studied the LTC review programs of any other PSROs. More than 40 other PSROs are doing LTC review and we cannot rule out the possibility that there are currently more effective LTC review systems than those in our study. Similarly, in 1976, 15 PSROs were funded to conduct demonstration projects in LTC review but only ten were included in this evaluation. It was beyond the scope of our contract to examine the five PSROs that were excluded from the original demonstration plan.

For policymakers the most relevant conclusions are those that pertain to the impact or potential impact of a PSRO long-term care review program. We focused our assessment on identifying such impact but were limited by the following factors: (1) the PSRO projects were not initially mandated to demonstrate their effectiveness, (2) the demonstrations were subjected to changes during the two years that could have influenced outcome measures of quality and/or utilization (e.g., changing state reimbursement mechanisms to nursing homes and changing federal guidelines for the functioning of PSROs), and (3) there was a general absence of baseline or comparison data against which PSRO performance could be measured, and (4) for those demonstrations without binding review, the lack of sanctioning ability meant that the PSRO would, at best, be able to produce a weak effect. (See the first section of Chapter 5 for a discussion of these issues.)

We conducted this study under some constraints that should be acknowledged. We did not begin our work until after the demonstration period had ended and were thus obliged to collect data retrospectively. Because of the need to draw conclusions from the demonstration projects as soon as possible, we had a very short time-line (six months) to accomplish the assessment tasks.

The major limitations may be summarized as follows:

- We have no information about the extent to which the experience of the ten demonstration projects represents that of other PSROs in long-term care.
- There are limitations to our ability to make statements—positive or negative—about the impact of the demonstrations on cost, utilization, or quality of nursing home care.
- We necessarily have built our assessment on a retrospective reconstruction of the work of the ten demonstration projects.

GENERAL DESCRIPTION OF THE PROJECTS

A fully operational program of PSRO long-term care review includes Preadmission Review, Admission Review, Continued Stay Review, Concurrent Quality Assurance activities, Medical Care Evaluation studies, and Profile Development. In an operational stage, a PSRO would have negotiated binding review for both Medicare and Medicaid skilled care nursing home patients. Although PL 95-142 has limited the requirements for PSRO review to the skilled nursing facility level, a more comprehensive program would include both SNF review and ICF review (at the request of the particular state or, in certain circumstances, of the Secretary of HEW).

As Chapter 3 indicates, the ten demonstration projects varied widely in the external circumstances that they faced and in the scope and authority of their review programs. Table 9.1 describes the demonstration activities of each site to show the extent to which each project balanced developmental and experimental activities with implementation of an operational program involving binding determinations. Table 9.2 indicates the features of a comprehensive operational program

Table 9.1

SUMMARY OF ACTIVITIES OF THE PSRO LTC DEMONSTRATION PROJECTS

Site	Brief Summary of Activities
Baltimore	Binding PAR & CSR in Chronic Disease Hospitals from 1976. Binding PAR & CSR for Medicare and Medicaid nursing home patients negotiated by the end of the demonstration project. Cross-sectional surveys of total chronic disease hospital patients (about 400) and nursing home patients (about 3500). Intensive commitment of resources to upgrade care in a single facility.
Bronx	Binding Medicare review by the end of the demonstration. Inability to negotiate Medicaid review with New York state prior to the end of the demonstration.
Charles River	Binding Medicare review by the end of the demonstration. Binding Medicaid review not negotiated with Massachusetts (and not a priority) during the demonstration. PAR, CSR, CQA, and MCE studies conducted on a voluntary basis involving all SNF and ICF patients by the end of the demonstration.
Colorado	A non-binding program limited to volunteer nursing homes and hospitals in two regions in the state. Concentration of preadmission and the first six months after admission. For this sample, demonstrated a variety of review methodologies including the use of a geriatric nurse practitioner/caseworker review team, multidisciplinary development of problem-oriented outcome-based criteria sets for quality assurance, development of a two-stage methodology for focused retrospective review, and use of a scoring system for LOC decisions.
Minneapolis	Experiment in the effectiveness of long-term care review performed in 8 experimental nursing homes with 10 other nursing homes serving as control homes or training homes. Within this context development of a systems approach to long-term care review and detailed assessment instruments.
Multnomah	Binding review for Medicare and Medicaid patients in SNFs. No review in ICFs. Delegated review system which then required redesign during the demonstration period when delegation to nursing homes was prohibited.
San Joaquin	Binding Medicare review prior to demonstration. Binding Medicaid review not successfully negotiated with the state of California during the demonstration. PAR, AR, CSR, and MCE studies conducted on a voluntary basis for Medicaid patients and a binding basis for Medicare patients in all facilities. Emphasis on development of quality criteria and an experiment in quality assurance during the demonstration.
South Carolina	Binding Medicare and Medicaid review on a statewide basis, implemented in all nursing homes in South Carolina. Program included AR, CSR, CQA, and two MCE studies per year per nursing home. Program included PAR on a pilot project basis only.
Utah	Non-binding review program for Medicaid patients in 20 volunteer nursing homes. Within this context developed quality assurance programs and conducted MCE studies but did not perform any utilization review activities.
Vermont	Binding Medicaid review on a statewide basis, implemented in all Vermont nursing homes. Conducted AR, CSR, CQA, and one MCE study; PAR conducted on a pilot basis only. Conducted an extensive series of studies of dischargeable patients with the potential for placement in a community care home rather than remaining in the nursing home. Developed an automated data system.

Table 9.2

Extent to Which the Demonstrations Approximated Operational Long-Term Care Review Programs

Characteristic[a]	BALTIMORE	BRONX	CHAS RIVER	COLORADO	MINNEAPOLIS	MULTNOMAH	SAN JOAQUIN	S. CAROLINA	UTAH	VERMONT
Binding Medicare Review	x	x				x	x	x		
Binding Medicaid Review	x					x		x		x
Coverage of all SNFs in PSRO area	x	x	x			x	x	x		x
Coverage of all ICFs in PSRO area	x		x				x	x		x
Did Utilization Review (including PAR)	x (x)	x	x (x)	x (x)	x (x)	x (x)	x (x)	x (x)		x (x)
Did Quality Assurance Review	x	x	x	x	x		x	x	x	x
Developed profiles (Worked toward profile development)		(x)		x	(x)		x	(x)	x	x
Rank ordering of degree to which the project approximated an operational LTC program	4	6	4	8	9.5	7[b]	3	1	9.5	2

[a] Characteristic not necessarily in place throughout the entire demonstration project.

[b] Ranking of Multnomah reflects that the demonstration was based on delegated review model and therefore not prototypic of an operational program.

and shows the extent to which each of the projects developed these features. In the last row of the table, we present a ranking that orders the ten projects along a continuum reflecting their approximation of an operational program. There is a range from South Carolina with statewide binding Medicaid and Medicare review and Vermont with statewide binding Medicaid review at one end of the spectrum to Utah and Minneapolis with experimental programs in 20 and 8 facilities, respectively, at the other end. The ranking does not imply that demonstrations resembling operational programs were judged more favorably than those that did not develop such programs; in discussions about program costs, however, we are limited to the more completely mustered programs, e.g., South Carolina and Vermont.

The diversity of this national demonstration effort renders direct comparisons difficult. Within the program components developed at each site, moreover, there were further differences so that variations emerged in the methods used for all forms of review activities. Each of these review activities is discussed separately. Despite these concerns, however, we can make the following general conclusions:

- PSROs—programs organized and managed by physicians—can develop comprehensive monitoring programs in long-term care.
- Consistent with the initial mandate, the demonstrations developed diverse approaches for conducting the activities associated with long-term care review.

PREADMISSION REVIEW

Preadmission review may have one or more purposes: (1) assuring appropriate utilization and quality through prevention of unnecessary nursing home placements, (2) assuring appropriate utilization and quality by making determinations for the correct level of nursing home care, and (3) assuring quality of care in the nursing home by improving the transfer of information between hospitals and nursing homes. (These issues are discussed in more detail in Chapter 5 where preadmission review studies conducted during the demonstrations are also presented.)

Preadmission review (PAR), as performed by the demonstration projects, varied on several dimensions. One PSRO performed 100 percent binding PAR by the end of the demonstration, one performed 100 percent binding PAR for Medicare and non-binding for Medicaid, one performed 100 percent non-binding PAR, five performed partial voluntary PAR on some kind of pilot basis, and two projects did not perform PAR at all. One demonstration developed procedures for PAR for those patients applying for nursing home admission from the community, while the other PSROs limited their PAR review to those seeking LTC admission from hospitals.

Preadmission review varied according to several factors: (1) who performed it (hospital staff, LTC PSRO project staff, or nursing home staff); (2) the source of the information (hospital record, bedside assessment, or a combination); and (3) the criteria used to make level of care determinations (implicit judgments based on federal guidelines or explicit criteria with scoring systems).

The ideal time to make major decisions about nursing home care is before the patient enters the nursing home. For this reason preadmission review (PAR) is particularly attractive as a concept. Unfortunately, however, the strategies for effectively conducting this type of review and the necessary technology to support it are in an evolutionary stage.

The value of PAR depends to some extent on the availability of alternatives to nursing homes in the community. For many potential nursing home patients, the demonstration projects found that these resources were unavailable. For some patients even currently, however, alternatives to nursing home care may be identified if adequate time is allowed for discharge planning in the acute care hospital (see the description of the Colorado project in Vol. II). More careful analysis of the effect of active hospital discharge planning by hospital staff, even when such discharge planning might cost extra hospital days, is needed to assess the extent to which nursing home placements might be prevented by this approach. In particular, patients who had never been previously admitted to a nursing home would seem to be candidates for this attention.

Some of the more critical distinguishing features for focusing of PAR, as recognized by the Colorado project, are the motivation of the patient and the support system available to him/her. No documentation of these, however, is likely to be found in the hospital medical records. The PSRO demonstrations did not determine whether active information gathering and assessment in the hospital were useful and cost-effective in making decisions about nursing home placement.

PSRO acute care review has the potential to address such elements as timeliness of the physician's referral for discharge planning, range of options considered by the physician in his/her referral, and the hospital social worker's performance in terms of involving the patient in planning and exploring alternatives in the community. Such an approach could link acute hospital and LTC review on the one hand and utilization review and quality assurance on the other.

The following conclusions can be drawn from the experiences of the demonstration projects with PAR:

- There is some evidence that an aggressive PAR program can reduce nursing home days under Medicare (by perhaps as much as 20 percent), but in the experience of the demonstrations, a substantial proportion of such denied patients may nonetheless be admitted to nursing homes under private payment or Medicaid sponsorship. This was shown in San Joaquin, where denial rates for Medicare exceeded 20 percent. It was also shown by extrapolation in South Carolina; there the PSRO identified inappropriate skilled care placement *ex post facto* through Admission Review, but presumably the same misplacement could have been averted through PAR. (See the San Joaquin and South Carolina chapters in Vol. II.)
- Pursuit of a high denial rate based on a policy of strict interpretation of Medicare guidelines that narrowly define medical necessity for admission can be expected to have social and economic effects. Patients denied admission under such a program will almost invariably require services from both public and private sources. Further analysis is needed to assess the potential impact of such policies in both social and economic terms.
- Explicit criteria generally were not developed for level of care determinations at preadmission (or any other utilization review). The demonstrations made some beginnings (e.g., LOC scores in Colorado and South Carolina and achievement of reliable LOC decisions in Baltimore—see Chapter 3), but no single reproducible and reliable method of LOC determination

has emerged (see the Colorado report in Vol. II). Several of the PSROs were able to use their PAR program to identify patients eligible for nursing home care who could have remained in the community had such community resources been available. Some projects also identified patients who would have been candidates for rehabilitation centers rather than nursing homes.

- There was some evidence that a PAR program, particularly when it utilized the same assessment form as the nursing home reviews, could serve as an important link between the acute system and the long-term care system by improving the quality of transfer of information from the hospital to the nursing home. Charles River PSRO, the demonstration making the most efforts in this direction, was credited with improving information transfer by 67 percent of the nursing homes interviewed. Despite some preliminary work by the VPSRO, however (see Chapter 6), the actual effect of improved information transfer on the care received by the patient or his/her adjustment to the nursing home has not yet been demonstrated.
- Data are not available to support specific choices among the various strategies for performing PAR, although some strategies have been ruled out as impractical, e.g., the idea that a representative of the nursing home to which the patient has been referred should come to the hospital to make PAR determinations. (See discussion of the Minneapolis experiment in Chapter 5.)
- None of the demonstration projects undertook any activities to explore whether the use of additional hospital days (especially days in a minimal care hospital unit) for arrangement of a community placement can prevent a more costly nursing home placement.
- The demonstration projects produced information that illustrated some very real limitations on the usefulness of PAR. At least two projects in urban areas discovered that a large proportion of patients entering its nursing homes came from hospitals in other PSRO areas, and patients referred to nursing homes from its hospitals entered long-term care facilities in another PSRO area. The patient origin study performed in the Bronx demonstrated this phenomenon and led the PSRO to decide against giving PAR high priority. Similarly, the Charles River PSRO discovered that only a fairly small group of long-term care patients were admitted from Charles River area hospitals to Charles River area nursing homes, partly because of a tendency for patients to receive acute care in the Boston metropolitan hospitals. At present there are no arrangements between PSROs to handle these logistical problems, nor are criteria across PSROs sufficiently uniform to permit such agreements.

We would make the following recommendations about PAR programs:

1. A research strategy is needed to determine the best approach to PAR. Questions include method and auspices of data collection, possible ways of focusing PAR, and development of explicit criteria.
2. Regarding criteria development, work should be directed toward a reproducible and reliable instrument for determining need for nursing home placement and level of care.

ADMISSION REVIEW

Admission Review (AR) is pertinent for all patients for whom a preadmission determination has not been made. An AR program has the same potential for eliminating inappropriate placements, eliminating placements at the wrong level, and reducing Medicare expenditures (except for the cost of days already incurred in the absence of retroactive denials) as does a PAR program. Although the PAR approach is preferable, some AR program is required for patients who do not enter nursing homes from hospitals or who enter from hospitals in other PSRO areas, unless an efficient PAR mechanism can also be developed for these populations. The demonstrations did not take any steps in the latter direction.

Regarding admission review, we conclude and recommend the following:

1. AR is a poor alternative to PAR for patients referred to nursing homes from acute hospitals because it is: (1) more expensive in terms of nursing home days because some have already been incurred (unless one invokes retroactive denial); (2) more disruptive in terms of patient adjustment, especially if transfers are needed; and (3) more expensive to administer in terms of the decentralization of nursing homes than the hospital.
2. Because there has been little demonstration of a way of conducting PAR for patients who are admitted to LTC facilities from places other than hospitals in the PSRO area (Baltimore is our only example) and because such a PAR system is potentially expensive to administer, AR should be conducted in a timely fashion for patients admitted to nursing homes from the community. South Carolina and San Joaquin (see the chapters in Vol. II), give evidence that such review produced substantial denial and reclassification rates, especially for Medicare. In Vermont, where Medicaid review only was performed during the project, the denial and reclassification rates were less (2-3 percent). Medicare denial rates require careful interpretation at each site. For example, the Bronx PSRO functioned under New York's "maximization of Medicare" policy requiring that Medicare ineligibility had to be proved before Medicaid coverage could be granted, and thus its Medicare denial rates tended to be artificially inflated.

CONTINUED STAY REVIEW

Continued stay review (CSR) varied in the demonstration projects according to the type of person performing it, the sources of information used, and the criteria developed to justify a continued stay. Binding review programs were obligated by federal regulations to conduct 100 percent review at specified intervals, while voluntary programs were able to focus on populations felt to be vulnerable to misclassification (e.g., Colorado's focus on the first six months after admission).

In determining eligibility for continued stay in a nursing home at a skilled level, the PSROs used varying approaches to define a skilled service. A patient could be considered in need of skilled care if a skilled service were prescribed, if a skilled service were both prescribed and delivered, or if a skilled service were prescribed, delivered, and justified by the patient's condition. The implicit professional judgments often used to identify patients needing skilled care tend to mask these crucial distinctions. Some of the demonstration projects, however, moved toward clarifying the relationship between a prescribed service, a delivered service, and a needed service. In its first year of binding review, South Carolina PSRO denied skilled care to patients who had skilled services ordered and who needed such services but who were not receiving them in the facility (e.g., physical therapy). South Carolina also noted patients for whom skilled services were prescribed and delivered (e.g., urinary catheters, tube-feedings) but deemed medically unnecessary by the PSRO. Partly in response to this, the PSRO developed guidelines for medical necessity for various skilled services. Such guidelines connote an expanded role for CSR that goes beyond assurance that services were provided to an examination of the appropriateness of service packages in the first place.

An area worthy of more careful exploration concerns frequency of CSR. The current minimal review intervals articulated in the regulations and guidelines for Medicare and Medicaid do not have any empirical basis. Instead of reviewing patients at specified uniform intervals as specified by the guidelines, it may be appropriate to alter the frequency of review according to selected indicators and thus focus the process. Lessons derived from the demonstration projects' experience suggest that frequency of review should be greater during the period immediately subsequent to admission and proportionally less intense as the patient becomes a more permanent resident of the facility. Experience from the demonstration projects suggests that the rate of denials or reclassifications after a patient has been in the home for six months or more is extremely low and is not likely to justify the expense required.

Focused CSR utilization review may be the most cost-effective path to follow. For example, it may be feasible to limit intensive continued stay review activities to the first six months of a patient's stay in those facilities that have established a record of adequate performance with spot checking to assure the maintenance of this record. A change in the patient's status or rehospitalization could activate the more frequent review regimen. This would allow more intense efforts in trying to effect the patient's discharge from the nursing home while he/she is dischargeable and before institutionalization sets in. The active presence of the review team to monitor quality of care elements should be sufficient to prevent exploitation of such focused review by the nursing home. Certainly there is a basis for arguing that different rates of review are appropriate for facilities that have established different performance records (as reflected in their profiles); the same argument could be made for individual providers. The demonstration projects, however, did not produce any definitive data about how CSR might be focused. The Bronx PSRO made a promising beginning by developing length of stay norms keyed to the reason for Medicare coverage.

We would draw the following conclusions about CSR:

- In order to make determinations based on the actual need for particular skilled services, professional personnel are required. None of the demonstrations came close to developing the explicit criteria that would permit non-professional personnel to make level of care determinations.
- Several demonstration projects (e.g., Baltimore and Colorado) demonstrated that many of the present nursing home patients were placed at inappropriate levels according to level of care determinations made by the

PSRO. In cross-sectional surveys of the LTC population, Baltimore found that 25 percent of the chronic disease hospital population did not require this level of care and that three-fourths of those placed at the skilled level in nursing homes did not meet the PSRO's SNF requirements.

- Through PSRO activities in identifying misclassifications, some PSROs were able to present evidence in support of policy changes. In South Carolina and Baltimore, PSRO data led to a revision in the way beds were certified.
- CSR should emphasize achieving congruity between service packages and patient needs. Particularly in the current environment of cost-based reimbursement, the distinction between skilled and intermediate levels is not very useful unless it can be used as a basis for assuring that the appropriate types of services are provided to nursing home patients. Stringent LOC determinations will not necessarily result in any cost savings; at best, such determinations will distribute patients more appropriately on the basis of their identified needs. Such determinations might, in fact, lead to increased costs if needs for additional services are identified. We recognize that an emphasis on matching services and needs calls for an expanded view of CSR; it is, however, a logical expansion that offers opportunity for joining quality assurance and utilization review activities.

We make the following recommendations for CSR:

1. Research is needed to indicate appropriate ways to focus CSR.
2. Explicit criteria for CSR determinations are still needed.
3. Whatever the form of utilization review (PAR, AR, or CSR), PSROs must acknowledge the current need to admit or to retain in nursing homes patients who might be more appropriately served by alternative community resources. Because such resources are often unavailable, the nursing home becomes the only recourse. While conforming to the pressures created by such a situation, the PSRO should distinguish utilization attributable to "social necessity" from other utilization. For local planning purposes it is important that the total number of such certifications based largely on lack of appropriate community resources be retrievable.

CONCURRENT QUALITY ASSURANCE

With the exception of Multnomah, which developed a delegated review system, the demonstration projects expressed their conviction that the frequent and active presence of PSRO reviewers in the facilities provided a stimulus for improving the quality of nursing home care. In the telephone interviews, nursing home personnel confirmed the value of this review and feedback system. For binding review programs, the utilization review provided the legitimization for this constant presence in facilities but also added complexity to the role of a single organization that acts as monitor and educator. The voluntary programs, however, were able to conduct quality assurance activities without the justification of utilization review, but they had even less authority to place behind their recommendations.

In general, the sanctions for enforcing quality assurance activities were not clear. Federal regulations for Medicare and Medicaid provide for denial of reimbursement on quality grounds, but the demonstration projects rarely invoked such measures despite encountering instances of very poor quality of care. One of the demonstration projects, Baltimore, did officially contemplate such an action with regard to an outlier facility (see Chapter 5), and others developed collaborative arrangements with the State Health Department so that the licensing agency could actually enforce quality requirements.

The demonstrations identified large gaps in the quality of care being provided to nursing home patients. These gaps extended to the medical and the psychosocial area. In the medical area, the common problems included missed diagnoses, improper drug use, and inadequacy of physician attention. Restorative nursing programs were underdeveloped and patient care planning often rudimentary. Urinary catheters were overused and bowel and bladder training programs underused; there was frequent use of restraints and overuse of psychoactive drugs. (For a list of the most common deficiencies in LTC identified by the ten demonstration projects, see the last section of Appendix A.)

Concurrent Quality Assurance (CQA) varied similarly to the other forms of review. Two PSROs (Colorado and, to a lesser extent, Vermont) used a team of reviewers including a nurse or nurse practitioner and a social worker to perform CQA while the other demonstrations used a nurse reviewer; South Carolina briefly used some LPNs, but this proved unsatisfactory to both the PSRO and the nursing homes. Three projects (Minneapolis, Charles River, and Vermont) were committed to the concept that quality is improved when facility personnel are actively engaged in the assessment activities on which review is based; these programs endeavored, to varying extents, to use facility nurses as adjuncts in data-gathering activities.

Information sources included the patient's medical record, other facility documentation (such as the cardex, drug logs, and incident reports), interviews with staff, bedside assessment of the patient, and actual physical examination (the latter performed by nurse practitioners in Colorado). Criteria for quality assessment included implicit clinical judgments, explicit process criteria, and explicit outcome criteria. Criteria were usually developed around diagnostic entities or around problems in LTC; criteria for psychosocial problems, including disorientation, were not well developed. Utah and Colorado alone among the demonstrations gave detailed attention to producing criteria for drug use, although several other PSROs identified drug-related problems as prevalent in nursing home care.

Feedback about deficiencies uncovered as part of concurrent quality assurance was most often given immediately to nursing home personnel. When the deficiency involved a physician's behavior, the physician advisor conveyed the feedback by letter or, less often, by telephone or personal contact. Feedback to physicians was generally less active than feedback to the nursing home staff.

Few of the demonstration projects had the ability to trace the results of the PSRO recommendations to assess facility compliance with them. Utah, Vermont, and Charles River each had the capacity to detect the extent to which their recommendations were followed by the nursing home. Only Utah adopted a procedure whereby the reviewer systematically returned on subsequent occasions to note whether recommendations were followed in the case of specific patients and to reinforce them in cases of noncompliance.

Our summary conclusions regarding concurrent quality assurance activities are as follows:

- The demonstration projects consistently identified deficiencies in the quality of nursing home care through the concurrent review process.
- CQA, as developed by some demonstrations, could be seen as analogous to continuous MCE studies—problems were measured according to criteria for care, deficiencies were identified, feedback and correction were applied, and remeasures were conducted at the next review. The projects varied on the degree to which the measures depended on implicit judgment (Utah, San Joaquin, and Colorado applied explicit criteria) and the degree to which feedback was formalized. A few demonstrations provided profiles of CQA results to the facilities. None of the projects exploited the capacity of CQA to document improvements in the manner of the restudy cycle of the MCE study process. It would not be difficult, however, to take the CQA process to this next step if it were, in fact, conceptualized as a continuous MCE study.
- The demonstrations showed that problems in quality of care could be detected through review of the medical record. Reviewers have used record review to detect omissions, inconsistencies, failure to follow up on laboratory results, and patterns of poor or outdated practice. In some instances, the record review suggested the need to re-evaluate the patient's diagnosis.
- Although a record review had the capacity to detect problems in care, at least six PSROs found an additional bedside assessment to have advantages in terms of (1) its ability to reveal problems that are not addressed in records, and (2) its facilitation of an *esprit de corps* between reviewer and facility staff. In response to a question about the ideal form of LTC monitoring, the single most common reaction of facility personnel who were interviewed by telephone was that the reviewer should see the patients rather than depend exclusively on the record. Similarly, those telephone respondents who described why they believed that PSRO helped improve the quality of their care tended to cite examples related to bedside assessments and additional professional opinions offered by the PSRO.
- For both record assessment and bedside assessment, professional personnel are required because (1) the monitoring decisions require considerable knowledge and (2) feedback to nursing homes is most helpful if it is immediate and offered by a professional who is respected by facility personnel. Experience with LPN reviewers during the early part of the South Carolina demonstration showed the limitations of using less trained reviewers. However, the Colorado experience produced no evidence that a geriatric nurse practitioner is any more effective than a qualified nurse for the regular tasks of review and there was some suggestion that a GNP may not find the tasks satisfying.
- Two projects employed a team approach to review (Colorado and Vermont); in each case the other team member was a social caseworker. The additional costs of adding another data collector has not been justified by the experience of these projects and, in fact, there was considerable overlap in the way the two roles were construed.
- Careful thought is needed to differentiate between the functions of gather-

ing data and providing feedback before it will be clear to what extent multidisciplinary data collection is necessary; for example, reviewers currently collect information pertaining to the care provided by physicians, nurses, social workers, physical therapists, occupational therapists, and so on. The idea of using members of each discipline that practices in nursing homes to collect the information is not as theoretically appealing as the use of those practitioners to develop explicit criteria and then to review exceptions to these criteria determined on the basis of information provided in an initial screening.

- We must conclude, however, that the social worker as reviewer was not really tested during the demonstrations because the reviewers acting as social workers did not have a master's degree in social work and in most cases did not have even BSW training. However, if a social worker with professional training were to be added to the review staff, careful consideration would need to be given to the way feedback would be handled. An advantage of using nurse reviewers resides in the fact that facility nurses are immediately available for peer feedback from these reviewers. In contrast, it is not clear whether the social work feedback should go to the social service designee (often someone with no social work training), to the social work consultant, or even to a social worker in the state Medicaid program with responsibility for the Medicaid patient.
- Although techniques for concurrent monitoring of drug use should lend themselves to extrapolation directly from other PSRO work in hospital and ambulatory care review, few demonstrations applied explicit drug criteria during the demonstrations. Two projects that did build criteria for drug use (Colorado and Utah) found that a pharmacist was an important addition to the criteria-building group.
- The demonstrations experienced some difficulty in engaging physicians in criteria development and in vigorous application of peer review around quality issues. At a number of sites a problem developed because of the lack of norms for the care of the nursing home patient. In the absence of these norms, standard-setting and standard-enforcing became difficult. Another issue identified was the problem of providing feedback to physicians in a way that would not cause the physician to abandon the patient's care entirely.
- A promising avenue for feedback to physicians (tried but not rigorously evaluated) relied on the nursing home medical directors to upgrade practices in the facility on the basis of PSRO-generated data. Another common approach was to hold facility administration responsible for the quality of physician care; this method too has not been empirically evaluated, but anecdotal information suggests it is helpful but not sufficient. Letters and telephone calls to physicians from peer reviewers constitute the most stringent means of physician feedback used during the demonstrations. There was no instance of formal sanctions imposed on a physician as a result of the PSRO quality assurance activities.
- There was also no consensus about how some of the value-laden decisions that call for balancing quality of care and quality of life issues should be made. As shown in Table 3.3, no PSRO developed guidelines for decisions

about when a severely ill or terminal patient should be transferred from a nursing home to an acute hospital.

- At least six of the PSRO demonstrations construed their quality assurance activities as involving the PSRO in the role of active change agent. The change agent stance was manifested in several ways: (1) PSROs collected information that could be used to document deficiencies in the delivery system and lack of alternative resources for nursing home patients. (2) They tried to promote discharge planning for patients who, although eligible for nursing home care according to federal guidelines, might have been better served in the community. (3) They became involved in legislative lobbying and efforts to change reimbursement systems that they considered dysfunctional. (4) The PSROs engaged in active educational efforts that verged on offering consultation and even supervision to facility personnel. (5) PSROs undertook facilitating change in the entire record-keeping and patient-care planning system of the facility. Examples of each of these phenomena are discussed in the body of the report, including: Minneapolis's promotion of multidisciplinary patient care planning, South Carolina's work to eliminate "SNF only" facilities, Baltimore's directive role in care provision at an outlier facility, Utah's creation of a form for the recording of physical examinations, and Vermont's attention to discharge planning. The change agent stance is more directed toward changing the system than has been characteristic of PSRO review in hospitals. A policy decision is required regarding the extent to which the PSRO should function as a change agent in LTC; on the basis of the experience of the demonstration projects, we recommend that PSROs not be precluded from this type of activity.
- The PSROs generally (Utah and San Joaquin are the exception) did not have an effective followup system to assess the extent to which their feedback was heeded. It was therefore difficult for them to muster more than anecdotal evidence to show that their recommendations were followed or that their presence affected quality. The Vermont PSRO data system represents one means by which such monitoring can be accomplished.

We make the following recommendations regarding concurrent quality assurance:

1. CQA activities should include bedside assessment by a registered nurse in addition to record review.
2. Continued work is necessary to develop explicit criteria for quality. Multidisciplinary input is required so that information relating to the care provided by a variety of disciplines can be collected according to explicit criteria derived from the professional groups involved in delivering care. Particularly in the psychosocial sphere, criteria are rudimentary and need extensive work; this need extends to criteria for care of the disoriented patient as well as care of the mentally oriented nursing home patient who may have problems in the psychosocial area, including depression. Research is needed to identify specific patient behaviors that can be used to reflect these psychosocial criteria.

3. The use of drugs lends itself to development of explicit process criteria. PSROs should be encouraged to develop and apply such criteria.
4. We recommend attention to the development of outcome criteria for quality of care assessment. This is particularly indicated in the psychosocial area where the link between process and outcome is less well understood than in the area of physical functioning.
5. Continued epidemiological research is recommended to develop a basis for norms. This is again particularly true in the psychosocial sphere where there are no norms for the incidence of depression among the elderly or the natural history of disorientation for individuals in the community, let alone the nursing home.
6. Because explicit criteria are needed across many problems and dimensions of care and because epidemiological studies are required, it is likely that there are common needs for criteria building across all PSRO areas. Rather than duplicate this expensive work at each local PSRO, we recommend that the PSRO council consider funding a national inter-PSRO study to develop guidelines in LTC quality assurance activities. This pool of criteria could then be made available to individual PSROs for local modification.
7. The PSROs should develop a more active approach to physician feedback.
8. The PSROs should establish a mechanism by which advisors representing other disciplines (social work, physical therapy, etc.) provide peer review to corresponding members of their own discipline on the nursing home staff when initial screening reveals a problem.
9. PSROs should be able to insure that recommendations for the care of particular patients are followed up.
10. PSROs should develop information systems that enable them to monitor the extent to which their concurrent review has been associated with improvements in the quality of overall care in the facility. These may not need to be overly complex or even automated, but a feedback loop is required to realize the potential of CQA if it is to be used in the same way as MCE studies to document change.

MEDICAL CARE EVALUATION STUDIES

All the demonstration projects (with the exception of Minneapolis) performed one or more MCE studies; Chapter 6 describes the different approaches in terms of topic selection, criteria development, standard setting, data collection, data analysis, data display, and corrective measures. Two projects—Multnomah and, to a lesser extent, South Carolina—developed some experience with the delegated MCE study in LTC, and the other PSROs concentrated on areawide non-delegated studies.

Synthesis of the experience across the demonstration sites suggests some of the limitations of applying the MCE study methodology in the LTC setting. For many of the problems germane to nursing home patients (especially in the psychosocial and quality of life areas), it proved difficult to develop meaningful process criteria. For other problems, the major value of uncovering deficiencies often was dissipated by quibbling over the technicalities of the criteria. As with concurrent quality assurance activities, the absence of norms made standard-setting for MCE studies difficult. Because of the short duration of the demonstrations, few PSROs were able both to mount MCE studies and to conduct restudies to assess the extent of improvement.

Some MCE studies undertaken by the demonstrations resembled epidemiological studies in that they collected information about the incidence or prevalence of a problem rather than applying criteria for its care. Other MCE studies took advantage of the fact that the nursing home patients have long lengths of stay to conduct prospective MCE studies with repeated applications of the same criteria to the same patients over a given period of time.

We draw the following conclusions about the MCE studies in LTC based on the experience of the demonstrations:

- Evidence regarding the impact of the MCE study in improving the quality of care is rather meager. Charles River was able to show some improvement in physician transfer of information from the acute hospital to the nursing home upon restudy, but the PSRO still deemed the quality of this information transfer inadequate. South Carolina was able to show that some facilities improved on some criteria upon restudy (usually documentation criteria), but the total weight of these improvements is not impressive compared with the effort involved in South Carolina's MCE program. Most of the other sites did not conduct restudies during the demonstration period.
- There was consensus among the projects that delegation of the MCE process to facilities was not an effective procedure partly because the facilities lacked the technical expertise needed to conduct an MCE study.
- Criteria developed by the demonstration projects for MCE studies were not particularly explicit. To the extent that criteria are explicit, lesser trained personnel are capable of collecting the data. Criteria were not written with branching logic, and therefore a great deal of interpretation was left for the variation analysis that was performed by the supervising committee.
- Topic selection in many cases grew out of the concurrent review experience. In addition, the Colorado PSRO used a systematic approach to topic selection that included an analysis of information on a number of variables about which information could be collected easily (e.g., percent of decubiti in a facility, percent of urinary catheters). More intensive study was performed in the areas with deficiencies suggested by the broad screening procedures.
- Feedback to facilities regarding MCE study results was usually accomplished independently of the concurrent review system. This separation meant that the opportunity to assure that timely correction be applied in specific cases was sometimes lost.

We make the following recommendations about MCE studies:

1. Given the state of knowledge in LTC, epidemiologic studies are appropriate as a first step toward criteria building around some kinds of problems (e.g., accidents, decubiti, mental status).

2. Because the patient population is stable, prospective designs with multiple data collection points are also feasible and should be encouraged.
3. The MCE study should remain a flexible tool to be used as an adjunct to the concurrent review system (which, in itself, entails repeated application of quality criteria). Where a concurrent quality assurance program is operating in nursing homes, it would seem arbitrary and perhaps counter-productive to assign a requirement about the numbers and kinds of MCE studies that must be performed in each facility. There is no evidence from the demonstration projects to support a particular format for MCE studies. Similarly, data collection and data sources should be planned flexibly to meet the need of the particular problem; some studies (e.g., drug use in Colorado) are amenable to record review by a nonprofessional data abstractor, while others may require a professional as the record reviewer or direct observation by either a professional or nonprofessional.
4. Whatever MCE study program is developed, it should be carefully linked to the concurrent review program. During the demonstrations we observed a loss of information when the programs were distinct. The concurrent review system can generate information about problems prevalent in the nursing homes that could be useful in topic selection for MCE studies. The concurrent reviewers can also provide some tracking of quality deficiencies that are revealed through an MCE study.

DATA COLLECTION AND DATA SYSTEMS

The demonstration projects tended to collect considerable amounts of information through routinely applied data collection forms. An underdeveloped area across the demonstrations, however, was the use of these data and creation of a useful data system.

Data collection and analysis can serve various purposes in a PSRO LTC review program. A basic purpose is the collection of the information required to make a level of care decision. Such information is not extensive and does not require a detailed data collection form. For management purposes this same data collection would enable the PSRO to make statements about the numbers and kinds of denials and reclassifications made over time. These analyses, in turn, offer a source of information to permit the PSRO to demonstrate the effectiveness of its utilization review and also to make decisions about focusing utilization review.

A third purpose of a data system is to provide information about facilities, professional providers, and patients at different times. Such profiles can then be used to provide feedback to facilities about the quality of their care and to provide guidance for the PSRO in its decisions about how to focus quality assurance activities. To construct such profiles, information must be stored about the performance of the facility or provider across the various quality of care criteria used by the PSRO. Change in nursing home performance along quality dimensions over time as reflected by the data in this data system might provide evidence of the impact of the quality assurance program.

Beyond the immediate purpose of assisting in the conduct and evaluation of reviews, a data system in LTC has the potential to yield information of enormous value to those interested in learning more about the care of nursing home patients under a variety of situations, as well as to assist the PSRO in establishing the epidemiological base needed for standard-setting. A nationwide PSRO data system, properly organized and supervised to assure sufficient data quality, would represent the single largest accumulation of data on nursing home patients available anywhere. At a time when attention is increasingly directed to the plight of the nursing home patient, the importance of such a data resource cannot be underestimated. This last purpose of a data system necessitates inclusion in it of additional data elements describing the patient's functional status across a number of physical and psychosocial dimensions.

The attitudes of the ten demonstration projects toward a data system varied; some were strong advocates, others were more cautious, and some showed ambivalent attitudes. As our review of data collection forms in Chapter 3 shows, all the projects collected at least some information about the functional status of patients, medical conditions, mental orientation, and services received. The information collected was extensive in many cases; conscientious completion of the patient assessment form required more than half an hour per patient in at least half of the projects. The judgments of the reviewers were often implicit and often there was no clear relationship between the information collected on the data form and either the LOC determination or the quality of care judgments.

The demonstrations varied also in the amount of information collected (from a small number of elements in South Carolina to hundreds in Minneapolis), the frequency of data collection (at admission and discharge in South Carolina and at every review in Charles River and Vermont), and the extent to which the information was used to make decisions, create profiles, focus further review, or demonstrate the impact of the review system. Some systems were computerized (Vermont, Baltimore, Minneapolis's experimental data, South Carolina's brief abstract and, by the end of the demonstration, the Bronx), whereas other systems such as those belonging to Colorado, Utah, and San Joaquin were able to generate profiles using a hand-tabulated system. In addition, the Utah PSRO used the computerized Medicaid billing screening to identify problems in drug management in LTC and to profile these across providers.

We make the following conclusions about data collection and data systems:

- Collection of large amounts of information having no immediate purpose produces inferior quality information, especially if the information is collected by review coordinators who are unfamiliar with either the specific use to which the information will be put or the requirements for later data analysis.
- The PSROs' reluctance to move directly into data automation is understandable because of the large front-end costs and the uncertainty about federal requirements. Some of the forms designed by the demonstrations with a view to eventual automation, however, were not amenable to transfer to a computerized system.
- Some of the demonstrations developed information collection forms to be completed by nursing home personnel under the dual rationale that in completing an assessment form, facility staff would become more familiar with their patients and the form itself would act as a vehicle to improve care. We do not find evidence to support this contention and would urge caution in developing such a strategy. Certainly considerable PSRO qual-

ity control and monitoring would be needed to assure the accuracy of such information were it to be used to make generalizations about the LTC population. The lack of such quality control has made the interpretation of the PSRO LTC demonstration data more difficult and tentative. Furthermore, the premise that the completion of the form had a desirable effect in terms of patient care was not tested; facility personnel often perceived such tasks as onerous paperwork without particular value.

- The reliability of data collection on measures such as functional status cannot be assumed. Those projects that gave attention to reliability issues (e.g., Baltimore) found that reliability was initially poor and that practice was required before a respectable reliability rate could be achieved.
- Profile information is a potentially important tool that was under-utilized by the demonstrations. Colorado PSRO did use profiles for both feedback and targeting review, but the manual basis for the system limited the kinds of analyses that could be performed. Just at the conclusion of its project period, the Vermont PSRO was able to demonstrate a number of creative uses of a data system to identify discrepancies between patient needs and services received. Those discrepancies, some suggesting underservice and some suggesting overservice, merit further attention from the review system (see Chapter 4).
- Many of the demonstrations expressed frustration that they could not generate more than anecdotal evidence to substantiate their strongly perceived sense of accomplishment in improving the quality of care. A well-designed data system might have addressed these limitations.

Our recommendations include the following:

1. Data systems should be carefully designed to include those elements that the PSRO deems useful in either documenting the effect of review or focusing review efforts. Because of the large number of facilities and patients to be included, the data system should not be allowed to become all-encompassing.
2. Although it is perhaps premature and contraindicated to endorse a single assessment form for data collection across PSROs, we suggest that some minimal data elements for PSRO LTC assessment be identified and introduced. Such a floor of information across sites need not be extensive and would not prevent each individual PSRO from adding the additional items that it considers justified.
3. Data collection forms should be designed with their eventual analysis in mind; those who complete the forms should be trained in their use and there should be a quality control procedure that emphasizes accuracy, completeness, and inter-recorder and inter-temporal reliability.
4. Facility personnel should not be relied upon for collection of the information used in the data systems because of reliability problems. For the same reason, PSRO personnel should receive training in reliability before collecting information.
5. Data collected should also be used. When data displays are developed, the accuracy of the information improves because its importance is more evident to all parties concerned.

6. Rather than mandating a specified LTC data system for PSROs, HSQB should consider funding further development of model data systems and exploration of their utility for LTC review. Particularly as 100 percent review seems less practical, the value of a good information system takes on more importance.

GENERAL CONCLUSIONS

Need for Coordination

Our study of the ten demonstration projects pointed up the value of good working relationships among PSROs and other state and local agencies as well as the problems that ensued when such coordination was lacking. (Chapter 3 describes some of these issues in more detail.) Without such communication, review organizations sometimes allowed themselves to be played off against each other by the nursing home industry. Although the PSROs may have been the interlopers on the established territory of some of the state agencies, few groups responsible for improving the quality of nursing home care would argue that the task is not sufficient to consume the energies of all the participants.

We make the following general observations about coordination of organizations:

- Few PSROs experienced difficulties in negotiating Medicare MOUs.
- The majority of the demonstrations encountered problems in negotiating Medicaid MOUs. The problems were compounded in states where there was more than one PSRO (New York, California, Massachusetts) and the problems were simplified in states that did not already have a strong MR/IPR program run by the state (Vermont, South Carolina). The issue of confidentiality of PSRO data and the extent to which these data might be shared with the states caused contention at some sites. Policy on this issue has not been clearly formulated.
- Overlap sometimes occurred between the function of the state health department (in its licensure surveillance activities) and the PSRO. An area requiring clarification is the concerns of the two agencies with patient records and patient care planning.
- An area of significant conflict is the current separation of responsibilities for the skilled and intermediate level of care. Particularly in geographic regions with a large number of mixed facilities, this separation may prove extremely troublesome. Although several state agencies are becoming sufficiently confident in the performance of the PSRO to enter into MOUs that delegate binding ICF review to PSROs, there is a large potential (when such MOUs are not in force) for duplication, inefficiency, and even direct conflict. To us, a particularly disturbing aspect of the division of authority between SNF and ICF review is the tendency of such a division to perpetuate the retention of these two LOC categories of reimbursement rather than facilitating a critical reappraisal of the LOC concept.

Cost Information

If HSQB is interested in comparing the costs of PSRO LTC review programs in relation to their activities, specific instructions must be given to all PSROs and uniform procedures adopted. The ten demonstration projects varied in how they allocated costs to various cost centers. At present the PSROs, for the most part, cannot accurately attribute their costs to their various LTC review program components and are forced to estimate such figures.

In developing uniform definitions for cost centers and for program activities, HSQB should consider keeping a record of the number of patients reviewed as well as the number of reviews themselves. In LTC the former figure gives an important perspective on the number of patients served by the entire LTC review activity. It now seems that a patient is recounted if he moves from Medicare to Medicaid, transfers to another LTC facility, transfers back to a nursing home after a hospitalization, or even changes from SNF to ICF status or vice versa within the same nursing home.

Further Development of PSRO Programs

The ten demonstration projects did not have the opportunity for very much interaction as they developed their programs. Those interchanges that did occur were perceived as helpful.

A common problem encountered by all the PSRO demonstrations was the shifting federal mandate during the two-year demonstration period. PSROs were at a disadvantage when held accountable for goals for which they had not initially planned. They were also perceived by the nursing homes and state agencies as being in a weak negotiating status at times because of the uncertainty about the future of PSRO in LTC.

On these issues, we would recommend the following:

1. The ten demonstrations have already advanced the state of the art of LTC review considerably. They have engaged in criteria-building, produced review methodologies, and learned some valuable lessons in how to conduct (and not conduct) LTC review. We have attempted to identify these contributions within the body of this volume and in the reports in Vol. II. We recommend that HSQB facilitate dissemination of information already gained from the demonstration projects to PSROs more recently embarked on LTC review.
2. Active communication among the PSRO LTC review projects should be encouraged. There is a vital need for sharing technology in this developing field.
3. HSQB, the National PSRO Council, or both need to define goals and objectives for which the PSRO LTC review programs will be held accountable. Such statements should be issued as soon as possible and held in force for a sufficient time to allow the PSROs to muster responsive programs.

The Future of PSRO in LTC

The experiences of the ten demonstration projects in LTC give cause for some optimism about the potential for the PSRO in LTC review. Despite the problems in demonstrating impact (problems that could be expected because of the mandates of the program), innovative programs were developed, quality of care problems were identified, and a professionally organized group with physician involvement proved a comparatively desirable organization (in the view of a majority of nursing home facilities) for the conduct of LTC review. Utilization review was able to produce reclassifications and, presumably, more appropriate care; the effect of these reclassifications on total dollars spent on LTC is not yet clear. The potential of the PSRO to affect quality of care seems great. One is left with the impression that much more developmental work can and should be done.

We advocate *retaining* the current policy that requires PSROs to conduct review in nursing homes as a condition of operational status because such a change in policy would invite the neglect of an extremely important and often voiceless part of the Medicare and Medicaid patient population. HSQB, however, must make a number of policy decisions about the nature and extent of PSRO involvement in LTC review. These will include:

- Consideration of extending the timeline for achievement of operational status or, conversely, permitting operational status contingent on having achieved binding LTC review within a specified time period subsequent to the operational designation.
- Consideration of whether 100 percent review is desirable or whether some focusing of both utilization and quality of care review is preferable. Although exact methods for focusing remain to be developed, we recommend focused review. The focusing of utilization review should be designed to concentrate review efforts on those patients who are most likely to be reclassified (e.g., those most recently admitted). Focusing quality of care review should be concentrated on those patients receiving the poorest care. Focused review, therefore, has implications for the frequency of review and the choice of which patients and facilities should be most intensively reviewed.
- Consideration of the need for, and feasibility of, a data system for LTC review. In light of the developmental work yet to be accomplished in determining both review mechanisms and data management, support of a few model systems seems preferable to mandating a universal approach at this time. Before an LTC data system is funded, HSQB should require that PSROs do pilot work and present plans for the use of data elements in such a system.
- Consideration of funding specific research projects to answer a number of the questions still unresolved by the demonstration efforts. Such research projects would have to be conducted at an appropriate level of scientific rigor to yield meaningful results. This level will be beyond the capacity of most functioning PSRO programs and will require a level of funding well above that provided for routine monitoring activities. For these reasons, such efforts should be concentrated in a few PSRO sites capable of forming collaborative arrangements with research groups that together can do this type of work. Ideally, further mandates regarding methods for LTC review would await the results of this research.

In summary, the PSRO review programs in long-term care, as exemplified by the ten demonstration projects, can serve an important function by insuring that the large sums of public money spent in nursing homes are purchasing better care than is currently the case. We expect, however, that PSRO activity in long-term care review will not bring about dramatic reductions in the total public dollars expended in nursing homes, although it should ensure more appropriate expenditures. The PSROs show great promise in the difficult task of further defining and monitoring the quality of nursing home care and insuring that nursing home residents receive both humane and technically sound care. These demonstrations are an important first step.

Appendix A

CONFERENCE REPORT

SUMMARY OF PLENARY DISCUSSIONS

The following points were emphasized during the two days of discussion:

- It is possible to identify areas in which PSRO can and/or already has had impact in improving quality of care. There is commonality in these problem areas across sites. Deficiencies in drug use, ADL training, bowel and bladder training, and psychosocial treatment have been identified as problems across sites.

- PSRO long-term care review is indeed feasible as has been demonstrated at the ten sites represented at the Conference.

- It is premature to develop uniform criteria sets or procedures for long-term care review and, moreover, when such guidelines are developed, they should be flexible enough to take into account local variations.

- The PSROs perceive a very important role for themselves in terms of quality assurance in long-term care.

- Cost-containment is a complex issue in long-term care review; it may be that improvements in quality are associated with increased costs. Furthermore, there is a possibility that if ICF care were improved to the extent that it offered a socially oriented program for residents, it might become much more expensive. Ironically, SNF care is not always more expensive to deliver than ICF care. The move to a cost-based reimbursement system highlights these issues and makes the level of care determinations somewhat artificial.

- If cost savings are to be realized as a result of the PSRO LTC review program, they will probably be in the area of saved hospital costs and come as a result of the Preadmission Review effort.

- In general, the demonstration projects were not established to demonstrate measurable impact of the PSRO review system on quality, but it is of paramount importance that the means of demonstrating such impact be developed and implemented for on-going projects.

PSRO LONG-TERM CARE REVIEW:
DISCUSSION OF EIGHT GENERAL QUESTIONS

Question 1: Choice of Review Strategies: Allocation of Resources Among Various Program Components

Points of General Agreement

1. In long-term care one cannot really separate continued stay review from concurrent quality assurance activities; when one is performing the former, one is also performing the latter.

2. Level of care determinations and continued stay review may not reduce costs of LTC for a variety of reasons, yet continued stay review provides the opportunity to monitor quality on an ongoing basis. While there were mixed opinions about the impact of continuing stay review, there was unanimity about the value of quality assurance activities.

3. It is extremely difficult to conduct 100 percent review in long-term care; there was widespread attraction to focussed review approaches although some states require 100 percent review.

4. Establishment of priorities depends on needs and possibilities in the local area. It would be too soon to develop centralized lists of priorities for all LTC review programs. Local variability was endorsed in principle.

Unresolved Issues--Points of Disagreement

1. The relative weighting that should be given to Preadmission Review as opposed to other long-term care review activities was a point of disagreement. On the one hand, it was argued that PAR is potentially the most effective component of the program since it can prevent institutionalizations and since it concerns patients at important transition points. The opposing argument is that PAR cannot prevent institutionalization in the face of lack of alternative resources, that it is difficult to accomplish adequately in the time frame of hospital discharge exigencies, that PAR is too dependent on the physician for information, and that it detracts from the more important priority of reviewing care in nursing homes themselves.

2. The amount of resources that various PSROs would prefer to invest in PAR ranged from 10 percent to 50 percent of the long-term care total. Some participants argued for setting priorities in a way that would maximize building a data base about LTC that could be used for decisionmaking by a variety of groups such as all levels of government, HSAs, providers, facilities and the PSRO itself in fulfilling its mandated responsibilities. (A later discussion--summarized as Question 5--deals in more detail with PAR as a process.)

Question 2: What Outcomes of Care Are Appropriate to Monitor in Terms of Quality: How Do We Ask the Right Questions About Quality of Care?

The complexity of this issue was illustrated by the wide-ranging discussion and the difficulty in achieving consensus. Among the indicators considered were discharge rates, mortality rates, functional status, psychosocial well-being, and patient satisfaction. Themes of debate included pros and cons of keying standards to the ideal versus the norms of practice in the area, developing expectations for patient groups vs. expectations for facilities, measuring intermediate outcomes (such as change in level of placement) vs. overall objectives (such as health), and maximizing psychological or physical objectives.

Points of General Agreement

1. Various common indicators of health status are not reflective of quality in long-term care:

   a. Mortality rates limited to discharge from the nursing home are irrelevant because they are influenced by the facility regarding the desirability of having terminal patients die in the hospital, the wishes of patient and family regarding terminal acute hospital care and the willingness of MDs in the area to come to the home to pronounce death. A useful "mortality rate" would require a complex definition of nursing-home related mortality that would include some deaths after discharge from the nursing home. Even if a suitable mortality rate could be developed, it too would have to be considered in the light of (1) the patient mix at the nursing home and (2) the issue of whether survival and longevity should always be the paramount indicator of quality.

   b. Discharge rates, although serving as a screen for facilities that tend to discharge problem patients or, conversely, facilities that avoid discharge planning, are also problematic for similar reasons.

2. Outcomes and processes are extremely difficult to separate in long-term care and in some instances the relationship between them is poorly understood. There was considerable agreement, however, that some kinds of process deficiencies in LTC are so blatant that their improvement would be synonymous with a outcome.

3. Changes in functional status over time are a worthwhile to measure; outcomes in long-term care must, in any event, be linked to functional status. A patient's potential must in some way be incorporated into the data system. Many sites had moved in some way to incorporating a measure of desirable outcomes into the review system, e.g., short-term measurable goal predictions, optimal overall patient outcomes, or desired outcomes linked to the problem parameters. The pros and cons of these differing strategies were discussed.

4. The majority of participants stressed the importance of examining patient-centered outcomes--the extreme position in this regard is that the entire rationale for PSRO activity in long-term care is to improve the overall management of patient care and to effect positive change in the delivery system. The opposite extreme--expressed by fewer participants--is that PSRO's role is not to develop knowledge or conduct research about LTC or promote ideal standards, but to determine that local standards of care are met.

Unresolved Issues--Points of Disagreement

1. Some participants advocated goals to be set for each patient and monitored in terms of patient achievements on a wide range of physical, psychological, social,

and even economic variables. Others argued for aggregating information across facilities and setting expectation for facility outcomes as opposed to individual patient outcomes.

2. The value of monitoring simple "tracers" or "markers" of care was asserted by several participants, but it was recognized that it is difficult to be sure one is selecting the correct markers. On the other hand, if one develops an overall score as a marker of quality, it is difficult to determine whether the construct is measuring anything real.

3. Some participants argued for monitoring straightforward objective outcomes that can be readily counted and measured (cleanliness, catheter care), suggesting that items such as patient satisfaction and psychosocial adjustment are subjective and exorbitantly expensive to collect. Others argued for slowly developing a comprehensive information system utilizing facility personnel to collect the information.

4. The potential conflict between maximizing social/psychological values and physical functioning/medical care values was not resolved. The issue was taken up in more detail in later discussions.

Question 3: Documentation of Deficiencies in the Long-Term Care Delivery System as a PSRO Goal

Points of General Agreement

1. Documentation of deficiencies in the delivery system, both institutional and noninstitutional, should indeed be a responsibility of PSRO.

2. It is particularly important that lack of alternative resources or maldistribution of resources be documented and linked to excessive institutionalization.

Unresolved Issues--Points of Disagreement

The following qualifications to the program objective of documenting deficiencies in the delivery system were exposed:

1. There was some sentiment that there already had been extensive documentation of the lack of noninstitutional resources for LTC patients. Some participants believed that this "case has already been made" and a disproportionate effort should not be devoted to augmenting such information at the expense of developing information about conditions in LTC facilities themselves.

2. There was similarly a caution against developing information that is too voluminous to use.

3. Some participants objected to the value-laden concept "deficiency," given our present state of knowledge; more appropriately, PSRO might be developing a framework to conceptualize what conditions are deficient and what conditions are not.

4. Documentation of lack of alternative resources leading to institutionalization might be performed in special studies using a small population rather than across a whole region or state.

5. Some participants felt strongly that that the PSROs which have been involved in long-term care for the longest period of time (i.e., the Demonstration Projects) should have extensive input into the standards set for LTC review and for LTC in general.

Question 4: Standard Setting and Criteria Development

Points of General Agreement

1. PSRO standards must obviously reflect federal guidelines for LOC; this necessity places the PSRO in the difficult situation of satisfying both federal guidelines and fiscal intermediaries. In particular, the Medicaid programs have provided a broad spectrum of services of last resort that would be severely limited by strict application of medical necessity criteria. The "real reasons" for institutional placement often center not on medical necessity, although it is present, but on social factors including community and personal resources available.

2. In terms of LOC decisions, there are problems with the definitions of the levels. It was common that patients who failed to meet definitions for skilled care nevertheless needed a greater volume of care than that provided by ICF facilities. Similarly, some patients required a very high level of "super-skilled" care. The two-level system is not refined enough to reflect patient need.

3. Diagnosis-based criteria are not particularly useful for LTC review.

4. It is too soon to force PSROs into a uniform set of quality criteria for LTC. More time is needed to determine what is normative practice and what are its results. Further, as uniform standards are developed they should be simple, basic guidelines permitting flexible adaptation in various areas of the country. Some participants suggested as a model standards such as "A PSRO area must set up a system to control physician abandonment" but not "A physician must visit the patient in the nursing home every x weeks."

5. It was generally agreed that extremely high technical standards would inflate costs of care and review. Further, it is not clear if high standards for technology detract from meeting psychological and social needs.

6. As already stated, the relationship between process and outcome in LTC is still not well understood. Some preventive measures--e.g., preventive dentistry--may be highly correlated with outcomes. Ultimate outcomes in terms of morbidity and mortality are dependent on a huge number of variables, the relative importance of which are not well understood.

Unresolved Issues--Points of Disagreement

1. While there was sentiment for considering ideal standards of care (and recognition that norms of practice may not be adequate in LTC), it was emphasized that standards should not be used as a "club" against facilities but rather as a goal facilities will be assisted to achieve. A strong minority case was made, however, for standards based on comparisons with peer institutions.

2. There was discussion of the role of the physician in the standard-setting and criteria-building process. Participants noted the swing toward emphasis on psychosocial factors (reflected by the new LTC minimum data set) but it was noted since

the patients coming from acute facilities to SNF-level care begin with medical problems, a medical model may still be an appropriate framework for monitoring quality of care. Some participants suggested that as an individual remains in LTC facilities his needs may shift to the psychosocial sphere. Some emphasized that if "medical care" is construed broadly to include a wide range of services, apparent conflicts disappear. To summarize this discussion, the medical input to criteria building, although while not sufficient, is surely necessary. On the other hand, psychologically and socially oriented criteria are extremely important, and that importance increases as medical problems become stabilized.

3. The point was made that the dichotomy between good care and quality of life is spurious and that it is important to develop definitions of health care that require both. In this view "good care is that which creates the most positive change on the most important indices of health for the longest time at the least cost." Ways of operationalizing so many objectives at once were not addressed, however, and other participants cited real examples of conflicts--e.g., an ICF patient deteriorates to the point of requiring SNF care, yet the resulting transfer has very deleterious effects on his social relationships and his mood.

4. An acknowledged but unresolved issue was the extent to which social values are related to development of standards. Here an important question is the extent to which the values of the patient should be used in setting criteria for care.

5. Another acknowledged unresolved issue concerned the extent to which the PSRO's objectives related to identifying outliers who perform extremely inadequately or carry on dangerous activities vs. upgrading care totally. Some participants made the point that the elimination of gross deficiencies is the role of state licensing agencies, which have the authority to act, and that the standards of the PSRO should be keyed to upgrading of care in general. There was not unanimity on this issue, however, and some PSROs felt it was important to impact on both these fronts.

Question 5: What Can Preadmission Review Accomplish and How Should It Be Structured?

The specific discussion of Preadmission Review emphasized three aspects: its purposes, appropriate data collection techniques and demonstrable effects. The cumulative experience of the Demonstration Projects in testing various kinds of PAR programs was discussed and considerable variation in approach and philosophy surfaced.

Points of General Agreement About Purpose

1. There was agreement that PAR can prevent institutionalization at inappropriate levels of care and facilitate transfer of information between the hospital and the LTC facility.

2. With some exception, it was agreed that PAR does not generally prevent actual institutional placement. If PAR saves money, the savings are realized in the Medicare program, but it is not clear that PAR can save total government LTC dollars.

3. Concentration on first admissions to LTC facilities would have the greatest payoff in terms of any possibility of preventing institutionalization through PAR.

Points of Agreement About Appropriate Data Collection Techniques

1. There seemed to be agreement that assuring reliability of the data is an important issue in PAR. Whether data are collected by hospital discharge planners or by LTC facility personnel, each has incentives for trying to maximize various kinds of outcomes related to emptying hospital beds in the former case or getting "desirable" patients in the latter case.

2. It was also agreed that there are logistical problems in PAR related to accomplishing the review in a timely fashion (if LTC people do the review, it could delay the patient in the hospital) and handling of the large number of patients who are not admitted to LTC facilities from the hospital. There are also issues about who should bear the responsibility and the cost of PAR (hospitals, LTC facilities, PSRO, patients?).

Unresolved Issues: Divided Opinions About Data Collection Techniques

The Demonstrations had conducted a variety of experiments and tried different approaches with PAR and at times presented conflicting evidence. This suggests that PAR mechanisms are sensitive to local situations, local incentives, and local bottlenecks. Among the issues highlighted and views presented were the following:

1. The amount of information to collect was a point of disagreement. Detailed assessment at PAR seemed superfluous to some participants, especially considering that, even if the PSRO performed the review, it was dependent on the information supplied by physicians and hospitals. Others advocated a detailed assessment at PAR in order to facilitate patient care planning and transfer of information.

2. Some suggest that the responsibility for PAR assessment properly belongs at the hospital level where resources are concentrated. Arguments against that emphasize that the LTC personnel have more background with LTC problems. Logistical problems in expecting facilities to be responsible for PAR in hospitals prior to a patient's selection of that facility were unresolved. In fact, PAR may be a misnomer for a process which is really AR (Admission Review) if performed by LTC facility personnel.

3. Reliability and validity concerns were viewed in different ways. One viewpoint was that if multidisciplinary team members in the hospital complete various portions of a PAR assessment without responsibility for a final score or LOC judgment, validity will not be compromised. One Demonstration believed it improved validity of PAR hospital reviews by providing feedback; e.g., showing polaroid pictures of decubiti that the PAR reviewer neglected to mention during the review. Another demonstration cited the opposite validity problem; i.e., the hospital PAR reviewers tend to overestimate problems in order to qualify patients for a higher level of care.

4. One group presented data to show that when PAR was delegated to hospitals, the results were even less satisfactory than when it was delegated to LTC facilities--partly because the latter know that their judgment will be checked during concurrent review and have a more continuing stake inthe decision than do hospital personnel. Another demonstration pointed out that nursing homes have an incentive to notify the PSRO if the patient's condition is discrepant with the discharge planner's statements. Another program had conducted a time-motion study of PAR to examine the quality of transfer information; they noted that hospital staff supplied better quality medical information while nursing home staff provided better psychosocial information.

5. Interface with the acute review system through PAR was an attractive option to many participants. A different viewpoint, however, is that with acute review becoming focussed retrospective review, the opportunity for that interface and the tracing of patients through both review systems is minimized.

Points of Agreement About Ways of Demonstrating Impact of PAR

1. There is as yet very little organized information about the impact of PAR.

2. Generally it is believed that Medicare money may be saved through PAR processes. No similar evidence is clear for Medicaid, however, because it seems that eligibility for Medicaid may be exerting a force toward the institutionalization of patients regardless of the review process.

3. In examining the impact of PAR on placement, one must distinguish between two components of the decision: 1) LTC admission and 2) LOC. For Medicare patients without Medicaid backup, the two decisions are in effect merged. Currently our information is inadequate regarding what happens to Medicare patients denied LTC benefits. Longitudinal information is needed about the proportion who return home and the proportion who become private pay patients in LTC facilities. Of this latter group, we need information about both discharge rates and later transfers to Medicaid programs.

Unresolved Issues

All issues are unresolved. Some demonstrations hope to impact on appropriate preadmission planning through education of discharge planners but cannot verify this impact. Another related approach is to develop information about the categories of current LTC patients who are most eligible for discharge and to try to concentrate on prevention of admission for that subgroup. One demonstration reported identification of a finite number of variables related to discharge potential.

Question 6: Data Collection and Sources

A wide-ranging discussion took place and varying views were expressed about the appropriate sources of information for LTC review. Much of the discussion concerned the patient vs. the record as data sources. Other discussion emphasized what kinds of personnel should be involved in data collection. There was disagreement about the extent to which improvements in documentation imply improvements in care.

Points of General Agreement

1. It was generally agreed that the data sources most appropriate depend on the goals of the program. It was also agreed that a single source of data is insufficient.

2. Further, the group was able to delineate the relative advantages and disadvantages of both the record and the patient as primary data sources. These are summarized on the chart:

Patient as Data Source		Records as Data Source	
Pros	Cons	Pros	Cons
Patient is best source of information about his feelings and other psychosocial dimensions Only way to avoid provider bias and self-fulfilling prophecies Patient morale improves. Patient enjoys being asked	Some patients are comatose or confused Patients may be less realistic or have poor judgment Patient interviews biased by transient moods Staff treatened by direct contact with patient	Records will be improved if used for review If Review Coordinators are constant presence in home using records, it is hard to falsify those records Less expensive way to review many cases	Records of poor quality Records may not reflect reality

Although there was agreement on these pros and cons, there was no agreement on the best source of data.

Unresolved Issues: Differing Viewpoints

1. One suggestion was that the source of data should be tailored to the kind of information needed. The plea was to search for simple, innovative ways to collect information that would be inexpensive and not involve highly skilled professional judgment. Examples offered included monitoring catheter care by a visual check of bedsheets; monitoring cleanliness by a "belly-button" check; monitoring nutrition by weighing all patients and looking for facilities that have very different mean weights. These kinds of screens have the advantage of being objective and inexpensive and suggestive of further studies.

2. Some participants felt that professional judgment was the crucial filter of information in the review process. Others noted that highly trained professionals are sometimes over-trained for the collection of routine data.

3. The role of nursing home personnel in the collection of data was also a controversial issue. Some participants pointed out that involvement of facility personnel was the best way to upgrade care; further, it was argued that, while the PSRO needs a great deal of information, it does not need to collect it all and pay for its collection itself and the facility staff must do assessments anyway. Others perceived data collection as an imposition on the facilities and also stressed the facility personnel have vested interests.

4. Hands-on assessments were also discussed. Some advocated that the PSRO RC get simple tests of functioning--e.g., ask patients to demonstrate ability to raise arm, etc--while others would restrict the RC to the record review. The liability of the PSRO for bedside or hands-on assessments was discussed and it was recommended that this issue be thoroughly analyzed. Many of the participants indicated that as a rule

of thumb the PSRO personnel should be accompanied by a facility staff member when approaching a patient; this reduces staff anxiety, somewhat protects the PSRO and also serves an unobtrusive educative function. Others saw this as an imposition on the facility staff. Some also perceived a hands-on examination as an imposition on patients. Certainly it is an expensive procedure, so that an intermediate suggestion is a bedside validity check with a subset of patients.

5. Finally, the group addressed the question of whether improved documentation is also associated with improved care. One demonstration had some data suggesting a positive association although one point of view suggests that if the record used as a measurement of achievement, it is vulnerable to distortion.

Question 7: Feedback and Intervention

Points of General Agreement

1. Feedback should be approached in a collegial rather than an adversarial relationship. A continuum was discussed beginning with education and joint problem-solving, moving through mandated corrective action and ending with sanctions through the legal system only as a last resort.

2. Feedback is most acceptable on a discipline-to-discipline peer basis; i.e., MD to MD, RN to RN, etc. In cases of deficiencies on the part of ancillary personnel such as OTs or social workers, the local professional association can assist in affecting improvements.

3. Profiled (patterns of care) feedback is considered very helpful.

4. The experience that PSROs have had thus far with LTC feedback has generally been on a one-to-one, case-by-case basis, through letters, telephone calls, and personal contacts. The technology for feedback is still being developed and tested.

5. PSROs believe that they have altered care through the one-to-one feedback mechanisms although the data are not easily retrieved. Most of the information is available in RC logs or Physician Advisor referral slips.

Unresolved Issues and Points of Disagreement

1. There was discussion of whether efforts at feedback and constructive action were most effective when targeted at physicians or at facilities. Some participants felt that the facilities should be the target and they in turn will involve physicians; it was pointed out that physicians do not read newsletters and those most in need of education do not attend workshops. Others perceive that medical directors can become engaged if approached with information; some are seeking for ways of performing that role.

2. A number of participants felt that nurses were the most fruitful group in which to invest training effort because they are responsible for the greatest amount of LTC.

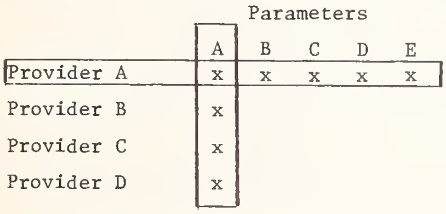
3. Some participants emphasized the importance of teaching facilities to work toward discharge planning, even if there are no available alternatives. Others felt feedback should be directed toward improvement of functional status and perceptions of well-being. This boils down to a question of whether the PSRO should work hardest to make life better for those in the nursing home or to move people out.

Question 8: Data Systems

The discussion of data systems dealt with reliability and accuracy of data, the level of complexity desirable, the kinds of data displays most useful and the place of automation.

Profiles

1. This was an area of mutual exploration rather than one of solid consensus; many of the sites were in the midst of deciding what kind of data system would be most feasible and appropriate. There was a general interest in profiled information although participants did not mean the same thing by the term "profile." The following diagram illustrates the point:



	Parameters				
	A	B	C	D	E
Provider A	x	x	x	x	x
Provider B	x				
Provider C	x				
Provider D	x				

Some facilities were interested in displaying information as in the horizontal rectangle--i.e., developing a descriptive capacity about a provider or facility across a number of parameters. Others were interested in the approach represented by the vertical rectangle--i.e., displaying information about the performance of a range of facilities on a particular parameter. The latter approach is a profile in the usual usage of the term, but there was confusion about its meaning.

2. It was argued that different kinds of profiles are useful for different purposes. If profiled information is to be used for decisionmaking on interventions, then it is useful to document deviations; for this purpose one site has developed profiles of exception rates to guidelines across facilities. They will then study facilities in the lowest quartile of the profile distribution. There was some discussion about whether profiles should be tied to norms or practice or serve a purely descriptive function. It was agreed that if profiles are to be used for intervention, feedback, and decisionmaking, the profile must be easily understood by laymen. The more politically sensitive the intervention decision, the greater the need for clarity in presentation.

Reliability and Accuracy

1. There was a general sense that the data available to the PSRO are not always adequate in terms of accuracy and reliability. The hospital transfer information particularly suffers in this regard, perhaps because of disincentives for accuracy.

PSRO-derived data also has reliability problems, however, and PSROs have moved toward reliability training for reviewers. Reliability is particularly at issue on the first review of a patient since no body of experience with the patient has been built up at that point.

Complexity of Review System

Here there was some disagreement about the desirable number of data elements and complexity of the system. One extreme position states that it is important for the PSRO to incorporate a large number of elements into a data base and preserve flexibility for performing analyses to meet unforeseen needs. A sharply contrasting view holds that it is inappropriate to collect masses of data for which one has no clear purpose.

Automation

Related to the question of complexity is the issue of automation. Again, some PSROs clearly advocate building an automated system while others would hold off on automation until it is clear what kind of data system is desired. It was pointed out that the hardware costs of an automated system are only the "tip of the iceberg" compared with the programmer costs to utilize the system. Sites which are committed to developing the capacity for complex statistical analysis of a descriptive nature, utilizing factor analyses and cluster analyses, clearly require an automated system. On the other hand, at least one demonstration showed the capacity to do profile analysis with a manual system. The uncertain policy environment in which the PSROs work is also related to the automation decision. At present there is no generally agreed upon data set. Feasibility of automation is related to standardization of both data elements and analysis--the more flexibility permitted in a system, the greater the cost. To achieve a modestly priced system, certain features would need to be specified despite the possibility that subsequent policy changes might make those features obsolete.

PROBLEMS IN LTC ON WHICH PSRO CAN HAVE IMPACT

As a by-product of the discussion about the potential impact of PSRO on LTC, each participant was asked to prepare a list of problems prevalent in LTC in their area and on which PSRO has made or could potentially make an impact. The purposes of this exercise were to:

a. produce a cumulative description of such problems according to PSROs with the longest experience in LTC

b. analyze that description for commonalities and differences, and

c. consider the implications for priorities for PSRO review, strategies of data collection, and ways of demonstrating impact.

Fourteen lists of deficiencies in LTC were provided; the number of problems listed by a single individual ranged from 7 to 23.

While Rand has not fully considered the practical implications of the kinds of problems listed, our preliminary analysis is presented to stimulate discussion among the participating PSROs.

The attached table enumerates the problems listed and places them in a number of general categories. The following general comments can be made:

1. The common themes in the problem areas listed by the participants suggest some opportunities for documenting general impact across geographical regions.

2. Psychosocial problems and drug problems are highlighted. There is, in fact, an interaction between these two areas since the majority of drug problems concerned overuse of tranquilizers and sedatives and there were concerns about tendencies toward drug use in lieu of other programming to modify behavior.

3. When problems in the area of incontinence care, restorative care, and patient care planning are cumulated, it is clear that a large number of problems are related to nursing care.

4. This kind of listing confirms the importance of interdisciplinary involvement in criteria development, standard-setting, and feedback.

5. A high proportion of these problems have serious implications for morbidity and mortality as well as quality of life--e.g., drug overuse and misuse, failure to feed patients, inappropriate use of restraints--and highlight the active need for a quality of care monitoring function in LTC. Other problems relate to the lack of a restorative or rehabilitative program geared toward maximizing functional potential--e.g., lack of bowel and bladder training, lack of ADL-improvement programs, inattention to visual problems, communication problems, or dental problems. These "sins of omission" suggest the need for educational efforts.

PROBLEMS IN LTC ON WHICH PSRO CAN HAVE IMPACT

MEDICATIONS				29
Overuse			12	
Sedatives/tranquilizers		7		
Antibiotics		2		
Diuretics		2		
Antihypertensives		1		
Underuse			2	
Not given or missed		2		
Misuse			1	
Incompatibility			7	
Diuretics		3		
K+ with K sparing diuretics	1			
two diuretics at same time	1			
with Lithium	1			
Aspirin/derivatives with anticoagulants		2		
Lomotil with Cleocin		1		
propranolol with aminophyllin		1		
Without specific procedure			3	
Patients on diuretics not weighed regularly		1		
BP for patients with antihypertensive meds		1		
Antibiotics without culture & sensitivity tests		1		
Without justifying diagnosis			4	
Meds not consistent with diagnosis		2		
Digoxin without justifying dx		1		
Metamucil for pt on low sodium diet		1		
PSYCHO-SOCIAL				19
Disorientation/confusion			5	
Isolation/lack of stimulation			5	
Depression/misdiagnosed as OBS			3	
Anxiety			1	
Agression			1	
Dependency			1	
Overuse of restraints			2	
No criteria for psych consult/care			1	

INCONTINENCE/CATHETER CARE		17
Incontinence of bowel/bladder	6	
Need for bowel & bladder training programs/training/protocols	4	
Need for catheter care programs/training (aides)	4	
Urinary tract infections	3	
RESTORATIVE NURSING/PT/OT		16
Immobility (orthopedic, arthritis, fracture, neurological)	5	
ADL dependence/lack of evaluation	5	
Lack of restorative services-nursing, PT, OT	4	
Lack of devices/braces	1	
Ordered services delayed or not given	1	
PATIENT CARE PLANNING		11
Inadequate/inappropriate care plan	4	
Lack of monitoring/following care plan	2	
Lack of continuity of care plan	2	
Lack of appropriate/timely discharge planning	2	
Lack of observation of patient's changing condition	1	
OTHER PATIENT CARE		10
Poor diabetic management	2	
Recurrent upper resp infections	1	
Pts not turned, coughed, encouraged to take deep breaths	1	
Shortness of breath	1	
Lack of pain management	1	
Dependent edema	1	
Constipation (acute or chronic)	1	
Hypertension	1	
Circulatory problems	1	
ADMINISTRATIVE		9
MD abandonment, lack of coverage	3	
Lack of continuity/Communication between nursing Home and hosp	1	
Delay in transfer from hosp to LTC	1	
Lack of mechanism of reserving bed when pt temporarily hospitalized	1	
"Dumping Syndrome"--Home transfers pt to hosp., refuses to readmit	1	
Inadequate LTC nursing staff	1	
Neglect & abuse/related to fraud (infrequent but important)	1	
XRAY AND LAB		7
Regular/routine urines for diabetics	2	
No blood work on pts with GI bleeding and anemia	1	
No follow-up Xrays on pts with fxs prior to weight bearing	1	
Lab studies not performed as needed	1	
Abnormal blood sugars	1	
VISION/HEARING/SPEECH		6
Impaired vision/need for eye exams	2	
Impaired hearing	1	
Speech disorder/communication problem	3	

SKIN CARE/DECUBITI		5
Primary/secondary skin conditions	2	
Decubital care/inadequate culturing/lack debridement/lack of risk determination	2	
Lack of skin care	1	
NUTRITION		3
Patients not fed when needing assistance	1	
Malnutrition	1	
Dehydration	1	
FOOT CARE		2
Podiatry/toe nail clipping/foot care	2	
DENTAL		1
Lack of any regular preventive dental care	1	

SUMMARY

MEDICATIONS	29
PSYCHOSOCIAL	19
INCONTINENCE/CATH	17
RESTORATIVE NURSING/OT/PT	16
PATIENT CARE PLANNING	11
OTHER PATIENT CARE	10
ADMINISTRATION	9
XRAY/LAB	7
VISION/HEARING/SPEECH	6
SKIN CARE/DECUBITI	5
NUTRITION	3
FOOT CARE	2
DENTAL	1
TOTAL	135

Appendix B

Medical Status and Patient Care Items, by Site and Form

Item	Baltimore	Bronx	Charles River	Colorado		Minneapolis	
	PAF	AR	PCRF	PRF	CRF	PAP	POP
A) Physical Function							
Mobility	3[a]	3	5	1	--	13	4
General	--	--	1 (4)[b]	1 (4)	--	6 (4)	1 (3)
Ambulation	1 (7)	2 (4)	2 (4)	--	--	3 (4)	2 (5)
Transferring	1 (4)	1 (4)	1 (3)	--	--	3 (4)	1 (4)
Stair Climbing	1 (3)	--	1 (2)	--	--	1 (4)	--
Dressing	1 (3)	1 (3)	1 (3)	1 (4)	--	4 (4)	1 (4)
Eating/Feeding	1 (6)	1 (4)	1 (3)	1 (4)	--	4 (4)	--
Bathing	--	1 (3)	--	1 (4)	--	4 (4)	1 (4)
Grooming	--	--	--	1 (4)	--	--	1 (4)
Toileting	6	1	3	2	--	7	2
Use of Toilet	1 (6)	1 (4)	1 (3)	2 (4)	--	1 (3)	--
Incontinence	2 (3)	--	2 (5)	--	--	6 (3)	2 (5)
Special Needs	3 (2)	--	--	--	--	--	--
Physical/Sensory Impairments	6	3	8	3	--	12	2
Vision	1 (5)	1 (4)	1 (4)	1 (4)	--	1 (6)	1 (5)
Hearing	1 (5)	1 (4)	1 (4)	1 (4)	--	3 (3,6)	1 (5)
Speech	1 (5)	--	1 (4)	--	--	--	--
Extremities	3 (5)	--	4 (5)	--	--	6 (4)	--
Skin/Ulcers	--	--	--	1 (6)	--	--	--
Teeth	--	1 (2)	1 (4)	--	--	--	--
Touch	--	--	--	--	--	2 (5)	--
Joint Motion	--	--	--	--	--	--	--
Coordination	--	--	--	--	--	--	--
Total Items	17	10	18	10	0	44	11
B) Behavioral/Psychosocial							
Mental Function	2	1	1	--	1	1 List & 1 Test[c]	5
Mental Status	--	--	--	--	--	--	3 (5)
Orientation/Confusion	1 (6)	1 (3)	1 (5)	--	1 (4)	List (14) Test[c] (10)	1 (5)
Level of Consciousness	1 (3)	--	--	--	--	--	1 (5)
Affective/Behavior	3 + List	1	1	2	5	24 + Lists & Tests[c]	7
Behavior	List (15)	1 (3)	--	1 (4)	1 (3)	List (5)	1 (5)
Cooperativeness	2 (2)	--	--	--	1 (4)	17 (3,6)	1 (5)
Appropriateness	--	--	1 (3)	--	--	--	1 (5)
Morale/Depression	--	--	--	--	2 (5)	Test[c] (16)	2 (5)
Independence/ Motivation	1 (2)	--	--	1 (4)	1 (5)	7 (2,4) + List (5)	2 (5)
Communication	1 (4)	1 (3)	1 (5)	1 (4)	--	--	2 (5)
List of Activities/ Interests	List (12)	--	--	--	--	List (14)	--
Total Items	6 + 2	3	3	3	6	24 + 3 Lists	14 + 1
C) Medical Status							
Diagnosis/Problem	7 Spaces	3 Spaces	1 Space + List (14)	2 Spaces + List (39)	1 Space	2 Spaces	--
Physical Examination	--	--	--	--	Complete PE (6 p.)	--	--
Vital Signs[d]	BP	BP,P,T	BP,P,H,W	--	--	BP,P,H,W	--
Abnormalities List	--	--	--	--	--	--	--
Surgical History	--	Open Space	Open Space	--	--	List	--
Allergy History	--	--	Open Space	--	--	Open Space	--
Recent Laboratory Data	4 (2)	2 (2)	6 (Open)	--	1 (Open)	--	--
Prognosis/Rehabilitation Potential	--	--	Open Space	--	--	--	--
D) Patient Care							
ADL Assistance	10 (28)	--	--	7 (4)	--	--	--
Medication List	List (28)	9 Spaces (Coded)	8 Spaces (Coded)	4 Spaces (Coded)	--	List (24)	--
Specific RN Services	List (16)	List (9)	List (8)	--	--	--	--
Specific Ancillary Services[e]	8 (3)	--	List (8)	--	--	--	--
Educational Services[f]	12 (3)	--	List (3)	--	--	--	--
Social Activity Needs	List (12)	--	List (5)	--	--	--	--
Diet Requirements	1 (2)	1 (3)	List (4)	--	--	8 (4-6)	--
MD Visit Frequency	1 (4)	--	1 Space	--	--	--	--
Immediate Care Plan Listed	2 (3)	--	1 Space	--	--	--	--

Item	Multnomah DCF	San Joaquin LOC	S. Carolina LTCA	Utah CA&IC	Vermont PAF	DHEW PACE II	DHEW Minimum Data Set
A) Physical Function							
Mobility	2	1	1	1	5	10	3
General	--	--	--	--	1 (4)	2 (3,5)	1 (3)
Ambulation	1 (3)	1 (7)	1	1 (8)	2 (4)	4 (3,5)	1 (3)
Transferring	1 (3)	--	--	--	1 (4)	2 (3,5)	1 (3)
Stair Climbing	--	--	--	--	1 (2)	2 (3,5)	--
Dressing	1 (3)	--	--	2 (3)	1 (3)	2 (3,5)	1 (3)
Eating/Feeding	1 (3)	1 (6)	--	1 (4)	1 (3)	2 (3,5)	1 (3)
Bathing	1 (3)	--	--	2 (2,5)	--	2 (3,5)	1 (3)
Grooming	--	--	--	--	--	(3,5)	--
Toileting	2	2	--	2	--	6	2
Use of Toilet	1 (3)	--	--	--	1 (3)	2 (3,5)	1 (3)
Incontinence	1 (3)	2 (4,5)	--	2 (3)	2 (5)	2 (3)	1 (3)
Special Needs	--	--	--	--	--	2 (2)	--
Physical/Sensory Impairments	4	4	3	10	8	28 + 1 List	3
Vision	1 (3)	1 (5)	1 (2)	2 (2,5)	1 (4)	1 (5)	1 (4)
Hearing	1 (3)	1 (4)	1 (2)	2 (2,5)	1 (4)	1 (4)	1 (4)
Speech	1 (3)	1 (6)	1 (2)	1 (6)	1 (4)	2 (5)	1 (5)
Extremities	--	--	--	3 (4,6)	4 (5)	6 (2)	--
Skin/Ulcers	1 (2)	1 (5)	--	--	--	2 (2)	--
Teeth	--	--	--	2 (2)	1 (4)	3 (9)	--
Touch	--	--	--	--	--	--	--
Joint Motion	--	--	--	--	--	List (16)	--
Coordination	--	--	--	--	--	13 (2)	--
Total Items	11	8	4	18	15	52 + 1 List	11
B) Behavioral/Psychosocial							
Mental Function	1	1 List	1	1 (Open)	1	--	1
Mental Status	--	--	--	--	--	--	1 (2)
Orientation/Confusion	1 (4)	List (4)	--	--	1 (6)	--	--
Level of Consciousness	--	--	1 (3)	--	--	--	--
Affective/Behavior	1	1 List	--	1 (Open)	1	3 Lists	3
Behavior	1 (4)	--	--	--	--	List (17) "adjustment" List (15) "behavioral problems" List (6) "interactions"	--
Cooperativeness	--	List (7)	--	--	--		--
Appropriateness	--		--	--	--		1 (2)
Morale/Depression	--		--	--	1 (4)		--
Independence/ Motivation	--		--	--	--		1 (2)
Communication	1 (3)	1 (6)	--	--	1 (5)		1 (5)
List of Activities/ Interest	--	--	--	--	--	--	--
Total Items	3	1 + 2	1	2	3	3 Lists	5
C) Medical Status							
Diagnosis/Problem	8 Spaces	7 Spaces	3 Spaces	8 Spaces	8 Spaces + List (14)	List (17)	19 Spaces Coded-ICD
Physical Examination	--	--	--	--	--	--	--
Vital Signs	--	--	--	BP,P,H,W	BP,P,H,W	BP,P,R,H,W	--
Abnormalities List	--	--	--	Open Space	--	--	--
Surgical History	--	--	--	--	--	--	--
Allergy History	--	--	--	--	--	--	--
Recent Laboratory Data	--	--	--	--	6 (Open)	7 (Open)	--
Prognosis/Rehabilitation Potential	--	1 (6)	--	--	Open Space	List (10)	--
D) Patient Care							
ADL Assistance	--	--	3 (2)	Open	--	--	--
Medication List	List (29)	List (11)	Open (Uncoded)	13 Spaces (Uncoded)	List (15)	List (31)	--
Specific RN Services	List (9)	List (12)	--	Open Space	List (8)	List (15)	1 (2)
Specific Ancillary Services[e]	5 (3)	List (6)	--	4 Spaces	8 Spaces	List (10)	7 (2)
Educational Services[f]	--	--	--	--	8 Spaces	List (5)	4 (2)
Social Activity Needs	--	--	--	--	5 Spaces	--	--
Diet Requirements	1 (4)	--	--	1 (6)	4 Spaces	7 (3,7)	--
MD Visit Frequency	1 Open space	--	--	2 Spaces	1 Space	2 Spaces	--
Immediate Care Plan Listed	List (5)	1 (2)	--	1 (2)	--	2 (3,5)	--

---

[a] Numbers outside parentheses refer to the numbers of individual questions pertaining to a particular item.

[b] Numbers within parentheses refer to the numbers of choices, levels, or headings within each question or list.

[c] Psychological test.

[d] BP=blood pressure, P=pulse, T=temperature, H=height, W=weight

[e] PT, OT, DDS, Respiration therapy, etc.

[f] Exercises, diet, foot care.

-- Not applicable.

Appendix C

Baltimore City PSRO Long-Term Care Patient Assessment Form

Baltimore City PSRO
2 Hamill Road, #339
Baltimore, Maryland 21210

LONG TERM CARE
PATIENT ASSESSMENT FORM

1 Study ID

2 Review Type
1 — ☐ Initial
2 — ☐ CSR

I. PATIENT INFORMATION

3 — PSRO ID
4 — PATIENT LAST NAME
5 — PATIENT FIRST NAME
6 — INITIAL

M M D D Y Y Y
7 — BIRTHDATE
8 — PROVIDER
9 — MEDICAL RECORD NUMBER
10 — SOCIAL SECURITY #

11 — PAYMENT SOURCE
1 — ☐ Medicare
2 — ☐ Medicaid
3 — ☐ Title V
4 — ☐ Medicare & Medicaid
5 — ☐ Other

12 — SEX
1 — ☐ Male
2 — ☐ Female

13 — RACE
1 — ☐ White
2 — ☐ Black
3 — ☐ Other

14 — MARITAL STATUS
1 — ☐ Single
2 — ☐ Married
3 — ☐ Separated/Divorced
4 — ☐ Widowed
5 — ☐ Unknown

PREVIOUS ADDRESS:

# Street

City County State

15 — ZIP CODE:

II. REVIEW INFORMATION

M M D D Y Y
16 — INITIAL ADM. DATE

M M D D Y Y
17 — MOST RECENT ADM. DATE

18 — ADMISSION LOC
1 — ☐ Chronic
2 — ☐ Skilled
3 — ☐ Int. A
4 — ☐ Int. B

19 — REFERRAL FROM
1 — ☐ Acute Care Fac. (Inpatient)
2 — ☐ LTC facility
3 — ☐ Clinic
4 — ☐ Community Phys.
5 — ☐ Other

20 — REFERRAL FACILITY
(Baltimore City)

Name

City State Zip

M M D D Y Y
21 — ADM. DATE TO REFERRING FACILITY

22 — PATIENT STATUS
1 — ☐ Improving
2 — ☐ Stable
3 — ☐ Fluctuating
4 — ☐ Deteriorating
5 — ☐ Critical (Non-terminal)
6 — ☐ Terminal

23 — ADMITTING DIAGNOSES
(Principal diagnosis)
(Secondary diagnoses)

1 —
2 —
3 —
4 —

III. PATIENT CHARATERISTICS

24 — ORIENTATION
1 — ☐ Oriented
2 — ☐ Disoriented

25 — MENTAL STATUS
1 — ☐ Alert
2 — ☐ Semi-comatose
3 — ☐ Comatose

26 — COMMUNICATION ABILITY
1 — ☐ Verbal—English
2 — ☐ Verbal—language
3 — ☐ Non-verbal
4 — ☐ Does not communicate

27 — ACTIVITY PROGRAM
1 — ☐ Individual activities
2 — ☐ Group activities
3 — ☐ Unable to participate
4 — ☐ Refuses to participate

28 — PATIENT BEHAVIOR
(Code to 4 only)

1 — Pleasant
2 — Friendly
3 — Cheerful
4 — Cooperative
5 — Independent
6 — Apprehensive, anxious, fearful
7 — Withdrawn
8 — Depressed
9 — Irritable
10 — Restless
11 — Wandering
12 — Angry, agitated, hostile
13 — Hallucinates
14 — Hoards
15 — Noisy, disruptive
16 — Other

PSRO—2 (3/77) 1- BC—PSRO PRIVILEGED INFORMATION white—office copy canary—data copy

29 — MOBILITY

1 — ☐ Ambulates independently
2 — ☐ Ambulates with assistive device
3 — ☐ Ambulates with human assistance
4 — ☐ Wheelchair — self propelled
5 — ☐ Wheelchair — pushed
6 — ☐ Chairfast
7 — ☐ Bedfast — can turn
8 — ☐ Bedfast — turning schedule

30 — STAIRCLIMBING

1 — ☐ Climbs independently
2 — ☐ Climbs with human assistance
3 — ☐ Never climbs
4 — ☐ Not applicable

31 — TRANSFERRING

1 — ☐ Transfers independently
2 — ☐ Transfers w/human assistance only
3 — ☐ Uses equipment/ device
4 — ☐ Not applicable

32 — DRESSING & PERSONAL CARE

1 — ☐ Self-care
2 — ☐ Requires assistance
3 — ☐ Requires total care

33 — EATING

1 — ☐ Feeds self
2 — ☐ Requires assistance
3 — ☐ Spoonfed
4 — ☐ Tube fed

34 — NUTRITION-DIET

1 — ☐ Regular
2 — ☐ Special

35 — NUTRITION-INTAKE & HYDRATION

1 — ☐ Adequate
2 — ☐ Problem

36 — TOILETING

1 — ☐ Uses toilet — day & night
2 — ☐ Uses toilet & bedpan, urinal and/or commode
3 — ☐ Does not use toilet room

37 — BOWEL FUNCTION

1 — ☐ Continent
2 — ☐ Occasionally incontinent
3 — ☐ Incontinent

38 — OSTOMY (Bowel)

1 — ☐ Self-care
2 — ☐ Requires assistance

40 — BLADDER CONTROL

1 — ☐ External device
2 — ☐ Indwelling catheter
3 — ☐ Ostomy

39 — BLADDER FUNCTION

1 — ☐ Continent
2 — ☐ Occasionally incontinent
3 — ☐ Incontinent

41 — BLADDER CARE

1 — ☐ Self-care
2 — ☐ Requires assistance

42 — SIGHT IMPAIRMENT

1 — ☐ Partial
2 — ☐ Total
3 — ☐ None
4 — ☐ Unknown

43 — HEARING IMPAIRMENT

1 — ☐ Partial
2 — ☐ Total
3 — ☐ None
4 — ☐ Unknown

44 — SPEECH IMPAIRMENT

1 — ☐ Partial
2 — ☐ Total
3 — ☐ None
4 — ☐ Unknown

IV. CLINICAL INFORMATION

45 — CURRENT CHRONIC DIAGNOSES

______________________________ 1 — ☐☐☐☐
______________________________ 2 — ☐☐☐☐
______________________________ 3 — ☐☐☐☐
______________________________ 4 — ☐☐☐☐

47 — TPR

1 — ☐ Stable
2 — ☐ Fluctuating
3 — ☐ Elevated

46 — ACUTE INTERCURRENT DIAGNOSES (Last 6 months)

______________________________ 1 — ☐☐☐☐
______________________________ 2 — ☐☐☐☐
______________________________ 3 — ☐☐☐☐
______________________________ 4 — ☐☐☐☐

48 — BLOOD PRESSURE

1 — ☐ Stable
2 — ☐ Unstable
3 — ☐ Elevated

SIGNIFICANT LABORATORY FINDINGS

49 — HEMATOLOGY

1 — ☐ Normal
2 — ☐ Abnormal
____

50 — CHEMISTRY

1 — ☐ Normal
2 — ☐ Abnormal
____

51 — CHEST X-RAY

1 — ☐ Normal
2 — ☐ Abnormal
____

51 — EKG

1 — ☐ Normal
2 — ☐ Abnormal
____

53 — OTHER ________

1 — ☐ Normal
2 — ☐ Abnormal
____

54 — MEDICATIONS ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐

(Indicate drugs used by code number up to 6 drugs)

1 — Analgesics (narcotics)
2 — Analgesics (non-narcotic)
3 — Antibiotics
4 — Anticoagulants
5 — Anticonvulsants
6 — Antihypertensives
7 — Anti-Parkinson's
8 — Cardiac drugs
9 — Chemotherapy (Malignant)
10 — Diuretics
11 — Insulin
12 — Mood changing drugs
13 — Oral hypoglycemics
14 — Sedatives
15 — Tranquilizers
16 — Steroids
17 — None
18 — Other: ____________________

V. THERAPEUTIC AND REHABILITATIVE PROCEDURES

55 — SKILLED NURSING PROCEDURES	YES	NO
1 — Ulcer care — pressure sore	☐	☐
2 — Ulcer care — other	☐	☐
3 — Oxygen treatment	☐	☐
4 — IPPB/Inhalation therapy	☐	☐
5 — Irrigation — bowel	☐	☐
6 — Irrigation — bladder	☐	☐
7 — Tracheotomy care	☐	☐
8 — Sterile dressings	☐	☐
9 — Ostomy care	☐	☐
10 — Suctioning	☐	☐
11 — Tube feeding	☐	☐
12 — IV therapy	☐	☐
13 — Clysis	☐	☐
14 — Other: ____________	☐	☐

56 — PHYSICIAN SERVICES

1 — ☐ Daily
2 — ☐ Weekly
3 — ☐ Monthly
4 — ☐ Other

57 — REHABILITATIVE THERAPY
(Code up to 5) ☐☐☐☐☐

1 — Physical therapy
2 — Speech therapy
3 — ADL training
4 — Occupational therapy
5 — Other:
6 — None

58 — RESTORATIVE NURSING CARE ☐☐☐☐

1 — Bowel training
2 — Bladder training
3 — Range of motion exercises
4 — Other:
5 — None

59 — PSYCHOLOGICAL SERVICES ☐☐☐☐

1 — Reality orientation
2 — Group therapy
3 — Counseling
4 — Other:
5 — None

60 — SOCIAL SERVICES

1 — ☐ Active involvement with patient
2 — ☐ Active involvement with family
3 — ☐ Active involvement with patient and family
4 — ☐ None

61 — OTHER SERVICES USED
(Code up to 5) ☐☐☐☐☐

1 — Recreational
2 — Dental
3 — Podiatry
4 — Ophthalmology
5 — Other:
6 — None

62 — MULTIDISCIPLINARY PLAN OF CARE

1 — ☐ Multidisciplinary care plan present and current
2 — ☐ Multidisciplinary care plan present, not current

63 — NURSING CARE PLAN

1 — ☐ Nursing care plan present and current
2 — ☐ Nursing care plan present, not current

VI. DISCHARGE PLANNING

64 — ACTIVE DISCHARGE PLANNING

1 — ☐ Yes
2 — ☐ No

VII. ASSESSMENT

65 — LEVEL OF CARE

1 — ☐ Appropriate
2 — ☐ Inappropriate

66 — RECOMMENDATION

1 — ☐ Remain at present level
2 — ☐ Reclassify as acute
3 — ☐ Reclassify as chronic
4 — ☐ Reclassify as skilled
5 — ☐ Reclassify as ICFA
6 — ☐ Reclassify as ICFB
7 — ☐ Recommend mental hospital/psychiatric care
8 — ☐ Other

67 — M M D D Y Y ☐☐☐☐☐☐
Date of Assessment/Certification

68 — Yes ☐ No ☐
Certification granted

69 — ☐☐☐
Number of days certified

70 — M M D D Y Y ☐☐☐☐☐☐
Date of next review

71 — ☐☐
Physician Reviewer

72 — ☐☐
Nurse Reviewer

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INSTRUCTIONS FOR LONG TERM CARE PATIENT ASSESSMENT FORM

I. PATIENT INFORMATION

1. Study ID - Enter code to designate appropriate study. Initial survey code for Spring, 1977, is 01.

2. Review Type - Check initial block. CSR - To be used at later date.

3. PSRO ID - Leave blank. Will be assigned in BC-PSRO office by secretary.

4. Patient Last Name - Print one letter in each block, beginning at left.

5. Patient First Name - Print one letter in each block, beginning at left.

6. Initial - Enter middle initial if known. If unknown, leave blank.

7. Birth Date - Enter in month, day, year format. Use leading zeros. Enter last 3 digits for year; i.e., 1914, enter 914.

8. Provider - Enter code indicating facility from master list. (See attached.)

9. Medical Record Number - Enter facility current chart number. Use leading zeros if less than 9 digits.

10. Social Security Number - Enter patient's Social Security number if known. If unknown, leave blank.

11. Payment Source - Enter Medicare and/or Medicaid number. Check block designating payment source at time of survey. If Medicaid is pending, code as Medicaid.

12. Sex - Check appropriate block.

13. Race - Check appropriate block.

14. Marital Status - Check appropriate block. If unknown, leave blank.

    Previous Address - Enter if available.

15. Zip Code - Enter Zip Code for previous patient address. If unknown, leave blank.

II. REVIEW INFORMATION

16. Initial Admission Date - Enter date of initial admission to facility in month, day, year format. Use leading zero for single number.

17. Most Recent Admission Date - Enter date of most recent admission to facility in month, day, year format. Use leading zero for single number.

18. Admission LOC - Check patient's admission classification level for most recent admission. Retrieve from 256R form.

19. Referral From - Check appropriate block describing facility patient referred from.

    1 - Acute Care facility
    2 - LTC facility
    3 - Clinic
    4 - Community MD - designates home
    5 - Other - designates special faciltiy; i.e., VA, psychiatric facility, or out of state.

    Retrieve from 256R form or admission sheet.

20. Referral Facility - Enter code for facility if in Baltimore City. Use attached master list. Use leading zero for single number. (If referring facility is not in Baltimore City, write in name, city or county, state, and Zip Code. This item must be completed only when a code for city facility cannot be entered.)

21. Admitting Date to Referring Facility - Enter admission date to referring facility. If unknown or not applicable, leave blank. Refer to admission sheet, 256R form, physician and/or transfer/discharge sheet for date.

22. Patient Status - Check appropriate block as described in last physician progress notes. If not documented, nurse coordinator should make determination pending approval by physician consultant.

23. Admitting Diagnoses - Write in using one line for each diagnosis. Record up to 4 diagnoses. Retrieve from physician admission note of recent admission, physician history and physical, or admission sheet. BC-PSRO staff will enter codes. Leave blocks blank.

III. PATIENT CHARACTERISTICS

24. Orientation - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

25. Mental Status - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

26. Communication Ability - Check appropriate block.

    1 - Verbal - English
    2 - Verbal - Foreign language
    3 - Non-verbal - If patient communicates in any understandable fashion; i.e., gestures, writes, etc.
    4 - Does not communicate - If patient does not communicate in any understandable fashion.

    Must always be completed. Retrieve from recent physician and/or nursing progress notes.

27. Activity Program - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

28. Patient Behavior - Code up to four as described in recent physician and/or nursing progress notes. Use leading zero for single number. If item 16 is coded, write in description.

29. Mobility - Check appropriate blocks. Retrieve from recent physician and/or nursing progress notes.

30. Stairclimbing - Check appropriate block.

    1 - Climbs independently - without assistance
    2 - Climbs with human assistance
    3 - Never climbs - Patient not physically able to climb
    4 - Not applicable - Facility without stairs

    Retrieve from recent physician and/or nursing progress notes.

31. Transferring - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

    4 - Not applicable - If patient is bedfast

32. Dressing and Personal Care - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

33. Eating - Check appropriate block. Retrieve from recent physician and/or nursing progress notes.

34. Nutrition - Diet - Check appropriate block. Retrieve from last physician order.

35. Nutrition - Intake and Hydration - Check appropriate block. Retrieve from recent physician and/or nursing progress notes. If no mention of problem, assume adequate.

36. Toileting - Check appropriate block. Retrieve from most recent physician and/or nursing progress notes.

37. Bowel Function - Check appropriate block. Retrieve from recent physician and/or nursing progress notes. If ostomy patient, leave blank.

38. Ostomy (Bowel) - Check appropriate block. Retrieve from recent physician and/or nursing progress notes. Leave blank if not applicable.

39. Bladder Function - Check appropriate block. Retrieve from recent physician and/or nursing progress notes. If catheter or ostomy patient, leave blank.

40. Bladder Control - Check appropriate block. Retrieve from recent physician and/or nursing progress notes. Leave blank if not applicable.

41. Bladder Care - Refers to 40. Check appropriate block. Retrieve from recent physician and/or nursing progress notes. Leave blank if not applicable.

42. Sight Impairment - Check appropriate block.

    1 - Partial - Check if mention of cataracts or other impairment.
    2 - Total - Check if patient is blind.
    3 - None - Check if appropriate.
    4 - Unknown - If patient is comatose, semi-comatose, or physician is unable to determine.

    Retrieve from recent physician and/or nursing progress notes.

43. Hearing Impairment - Check appropriate block.

    1 - Partial - Check if any mention of impairment or use of hearing aid.
    2 - Total - Check if patient is deaf.
    3 - None - Check if appropriate.
    4 - Unknown - If patient is comatose, semi-comatose, or physician is unable to determine.

    Retrieve from recent physician and/or nursing progress notes.

44. Speech Impairment - Check appropriate block.

    1 - Partial - Check if any mention of impairment.
    2 - Total - Check if patient is unable to speak.
    3 - None - Check if applicable.
    4 - Unknown - If patient is comatose, semi-comatose, or physician is unable to determine.

    Retrieve from recent physician and/or nursing progress notes.

IV. CLINICAL INFORMATION

45. Current Chronic Diagnoses - Record current chronic diagnoses using one line per diagnosis. Retrieve from recent physician and/or nursing progress notes and/or problem list. If same as admitting diagnosis, write same. BC-PSRO staff will enter codes. Leave blocks blank.

46. Acute Intercurrent Diagnoses (Last 6 months) - Write in using one line per diagnosis. Retrieve from recent physician and/or nursing progress notes and/or problem list. BC-PSRO staff will enter codes. Leave blocks blank.

47. TPR - Check appropriate block.

48. Blood Pressure - Check appropriate block.

49 - 53. Significant Laboratory Findings - Use time frame of six months unless an abnormal finding necessitating a repeat test was found

prior to time frame without a repeat test documented.

Check appropriate block. If abnormal, write in date and findings. If no available laboratory findings, write none.

54. Medications - Enter up to 6 codes designating medications. Use leading zero for single number.

18 - Other - Write in significant drug.

V. THERAPEUTIC AND REHABILITATIVE PROCEDURES

55. Skilled Nursing Procedures - Check appropriate block for each procedure. All items must be completed with either yes or no.

Item 14 - Write in.

56. Physician Services - Check appropriate block. Retrieve from physician progress notes.

Code 4 - Other - Write in.

57. Rehabilitative Therapy - Code up to 5. Use appropriate code number. Retrieve from recent therapy notes.

Code 5 - Other - Write in.

58. Restorative Nursing Care - Code up to 4. , Use appropriate code number. Retrieve from recent nursing notes and/or care plans.

Code 4 - Other - Write in.

59. Psychological Services - Code up to 4. Use appropriate code number. Retrieve from recent psychological notes.

Code 4 - Other - Write in.

60. Social Services - Check appropriate block. Retrieve from recent social service notes. Use code 4 if none.

61. Other Services Used - Enter code up to 5.

Code 5 - Other - Write in. Use code 6 if none.

62. Multidisciplinary Plan of Care - Check appropriate block.

63. Nursing Care Plan - Check appropriate block. Must be completed.

VI. DISCHARGE PLANNING

64. Active Discharge Planning - Check appropriate block.

VII. ASSESSMENT

65. Level of Care - To be completed at time of physician review by nurse coordinator. Check appropriate block.

66. Recommendation - To be completed at time of physician review by nurse coordinator. Check appropriate block.

67. Date of Assessment Certification - Enter month, day, and year. Use leading zero for single number.

68. Certification Granted - Check appropriate block.

69. Number of Days Certified - Enter number of days. Use leading zero if less than 3 digits.

70. Date of Next Review - Enter month, day, and year. Use leading zero for single number.

71. Physician Reviewer - Code appropriate number. Use list of physicians. (See attached.)

72. Nurse Reviewer - Code appropriate number. Use list of nurse coordinators. (See attached.)

** 73. Write in #73 and record current level of care. Example:

73 - Skilled.

When completing abstract form, fill in every section. If the information is not available, circle item number to denote that it was not overlooked.

MASTER LIST OF FACILITIES

01 - Baltimore City Hospitals
02 - Bon Secours Hospital
03 - Church Hospital
04 - Children's Hospital
05 - Good Samaritan Hospital
06 - Johns Hopkins Hospital
07 - J. L. Kernan Hospital
08 - Lutheran Hospital
09 - Maryland General Hospital
10 - Mercy Hospital
11 - North Charles General Hospital
12 - Provident Hospital
13 - St. Agnes Hospital
14 - Sinai Hospital
15 - South Baltimore General Hospital
16 - Union Memorial Hospital
17 - U.S. Public Health Service Hospital
18 - University Hospital

19 - Ardleigh Nursing Home
20 - Ashburton Nursing Home
21 - Bel Air Nursing Home
22 - Caton Manor Nursing Home
23 - Century Home, Inc.
24 - Crawford Retreat, Inc.
25 - Dukeland Nursing Home
26 - Edgewood Nursing Home
27 - Friedler's Guest Home
28 - Garrison Nursing Home
29 - General German Aged Home
30 - Granada Nursing Home
31 - Greater Pennsylvania Avenue Nursing Center
32 - Greenwood Acres Nursing Home
33 - Hamilton Nursing Center
34 - Harbor View Nursing Home
35 - Harford Gardens Nursing Home
36 - Haven Nursing Home
37 - Hayes Care Home
38 - Hilton Nursing Home
39 - House-in-the-Pines Belair
40 - House-in-the-Pines Belvedere
41 - Jenkins Memorial Home
42 - Jewish Convalescent Center
43 - John L. Deaton Medical Center
44 - Kenesaw Nursing Home
45 - Kenson Nursing Home
46 - Keswick Home
47 - Key Circle Hospice
48 - Lafayette Nursing Home
49 - Lake Drive Nursing Home
50 - Levindale Hebrew Geriatric Center
51 - Lincoln Convalescent Center, Inc.
52 - Long Green Nursing Home
53 - Maryland Rehabilitation Center
54 - Mason F. Lord Memorial Hospital
55 - Melchor Nursing Home
56 - Midtown Home
57 - Montebello Center
58 - Mt. Sinai Nursing Home
59 - Mt. Washington Pediatric Hospital
60 - ~~New University House~~ Seton Hill
61 - Park Hill Convalescent Home
62 - Pleasant Manor Nursing Home
63 - Silver Cross Nursing Home
64 - Uplands Home
65 - Wesley Home, Inc.

66 - Home
67 - Other (Write in on abstract)

Appendix D

SJPSRO Patient Care Quality Checklist for LTC Facilities Used in Concurrent Quality Assurance Impact Study and Criteria

PATIENT NAME ______________________________

PATIENT NUMBER ☐☐☐☐☐	PAY STATUS ☐
FACILITY NUMBER ☐☐☐	LEVEL OF CARE ☐
ADMISSION DATE ☐☐ ☐☐ ☐☐ month date year	SOURCE ☐☐
REVIEW COORDINATOR NUMBER ☐☐	REVIEW DATE ☐☐ ☐☐ ☐☐ month date year

PATIENT CARE QUALITY CHECKLIST - LONG TERM CARE FACILITY
(See accompanying instructions for further interpretations
and specific guidelines for the use of these items.)

1. Admission/Transfer Information

		Yes	Part.	No	N/A
a.	Is the important demographic information present?	☐	☐	☐	☐
b.	Is the necessary medical information present in the patient's chart or requested by facility?	☐		☐	☐
c.	Is there a chest x-ray report present or is the patient scheduled to have a chest x-ray?	☐		☐	☐
d.	Is the nursing evaluation from the acute hospital complete?	☐		☐	☐

2. Physician's Care Plan and Orders

		Yes	Part.	No	N/A
a.	Are there *specific* diet instructions present?	☐		☐	☐
b.	Is there mention of what activities patient may participate in?	☐		☐	☐
c.	Is there mention of rehabilitation potential?	☐		☐	
d.	Did the physician order or consider PRN medications for pain, sleep, and/or constipation?	☐		☐	
e.	Is the physician's plan of care consistent with services available in this facility?	☐		☐	

3. Physician Follow-Up (not applicable to admission review)

		Yes	Part.	No	N/A
a.	Is the patient's plan of care re-evaluated or changed as indicated by the patient's condition?	☐		☐	☐
b.	Do the physician's orders relate to the current condition of the patient?	☐	☐	☐	☐
c.	If a physician is contacted concerning an emergency situation, did he respond by telephone or by visiting the patient within 24 hours?	☐		☐	☐

PATIENT NUMBER ☐☐☐☐☐

4. Nursing Care Plans (initial and follow-up)

a.	Is there an adequate nursing care plan present?	Yes ☐		No ☐	N/A ☐
b.	Are the patient's daily care requirements specified?	Yes ☐	Part. ☐	No ☐	N/A ☐
c.	Is the nursing care plan re-evaluated or changed as indicated?	Yes ☐		No ☐	N/A ☐.

5. Nursing Care

a.	Are the patient care requirements being carried out?	Yes ☐	Part. ☐	No ☐	
b.	Is the appropriate staff charting at appropriate intervals according to the patient's level of care?	Yes ☐	Part. ☐	No ☐	
c.	Can recorded information be verified by direct observation of review coordinator?	Yes ☐		No ☐	
d.	Are the physician's orders being transcribed correctly and soon after being received?	Yes ☐		No ☐	
e.	Are the physician's orders being carried out as written?	Yes ☐		No ☐	
f.	Is there evidence that orders not signed by the physician are verified as being accurate?	Yes ☐		No ☐	N/A ☐
g.	Is the physician notified within 24 hours if a drug or treatment ordered by him is not available?	Yes ☐		No ☐	N/A ☐

PATIENT NUMBER ☐☐☐☐☐

6. Pharmaceutical

		Yes	Part.	No	N/A
a.	Are the correct medications being given?	☐		☐	☐
b.	Are the medications being given in the correct dosages?	☐		☐	☐
c.	Are the medications being given in the form ordered by the physician?	☐		☐	☐
d.	Are the medications administered according to the frequency specified in the physician's orders?	☐	☐	☐	☐
e.	Are the medications charted correctly?	☐		☐	☐
f.	If medications were stopped because of facility automatic stop procedure was the physician notified within 12 hours?	☐		☐	☐
g.	Are possible adverse drug reactions reported to physician within 12 hours?	☐		☐	☐
h.	Is there evidence that a pharmacist has reviewed the patient's drug regime at least monthly?	☐		☐	☐
i.	Are PRN medications that have been given justified?	☐	☐	☐	☐

PATIENT NUMBER ☐☐☐☐☐

7. Special Services and Therapies

a.	Are physician ordered special services being given?	Yes ☐		No ☐	N/A ☐
b.	If specific orders for services are not present but it appears that they may be needed, has recognition of the need been given in patient's plan of care?	Yes ☐		No ☐	N/A ☐
c.	Are the patient's individual needs, other than medical, being considered?	Yes ☐	Part. ☐	No ☐	
d.	Is there indication of continuity of care planning?	Yes ☐		No ☐	
e.	Is the patient given an opportunity to participate in an activity program consistent with his condition and personal preferences?	Yes ☐		No ☐	

8. Patient's Environment

a.	Does the patient's immediate environment appear to be free of safety hazards?	Yes ☐	No ☐	
b.	Is the patient's immediate environment sanitary and reasonably free of offensive odors (other than temporary)?	Yes ☐	No ☐	
c.	Can the patient's unit be identified as his alone after he has been in the facility for one week or longer?	Yes ☐	No ☐	N/A ☐

9. Diet

a.	Is the diet suitable for the patient's dental status?	Yes ☐	No ☐	
b.	Is the diet given the diet ordered by the physician?	Yes ☐	No ☐	
c.	Is assistance with feeding given when it is needed?	Yes ☐	No ☐	
d.	Are extra feedings or fluids given to patient if required or desirable?	Yes ☐	No ☐	N/A ☐

SAN JOAQUIN AREA PROFESSIONAL STANDARDS REVIEW ORGANIZATION.

INSTRUCTIONS AND GUIDELINES FOR NURSING HOME
PATIENT CARE QUALITY CHECKLIST
STUDY
GENERAL INSTRUCTIONS

Study Group 2	Study Group 1
1. For the initial review answer question #1 on Admission/Transfer information going back to the time of admission.	1. Same as for Study Group 2.
2. For the initial review, except for question #1, go back 2 months.	2. Same as for Study Group 2.
3. For continued stay review go back to the last review date but no further back than 2 months.	3. Same as for regular review except at the time of the last checklist review for the study, go back 2 months regardless of when the last review was performed.
4. Checkpoints for continued stay review depend on the particular items found on the previous checklist assessment. If follow up is needed on items directly affecting the care of the patient, the checkpoint is set to correspond to the particular items needing follow up. If such items are not involved, the checkpoint is set to correspond to the next level of care review.	4. Checkpoints for continued stay review are to be scheduled more often, in order to follow up on all "no's" or "partials". If such items are not involved then the checkpoint should be set at the earlier of the level of care review or 6 weeks.
5. It is not necessary to use the checklist if performing level of care review less than 2 weeks from the last review.	5. Use the checklist each time level of care review is done.
6. Document reasons for all "no's" and "partials" on back of checklist.	6. Same as for Study Group 2.

Revised 12/19/77

1. Admission/Transfer Information

   a. Important demographic information

Group 1	Group 2
1) Patient's home or former address 2) Date of discharge from acute hospital (if applicable) 3) Patient's ID number(s) 4) Marital status 5) Name of physician who cared for patient in acute hospital (N/A if patient not admitted directly from hospital)	1) Patient's name 2) Patient's birth date 3) Date of admission to facility 4) Name and address of nearest relative or guardian 5) Name of physician caring for patient in facility

   If all applicable items are present, answer yes.

   If all items in group 2 are present, but if 1, 2, or 3 items from group 1 are missing, answer partially. If 4 or more are missing, answer no.

   If one or more items are missing from group 2, regardless of items present in group 1, answer no.

   b. Necessary medical information must include both History & Physical Examination Report and Discharge Summary (or Progress Notes, if no Discharge Summary) when patient admitted directly from acute hospital. May answer yes if it is one week or less since admission and the information has been requested from hospital. If patient not admitted directly from hospital, necessary medical information must include at least a summary history and physical exam and the reason for patient's admission to facility.

   c. This would count as yes if there was documentation that the physician was aware that there was not a chest x-ray report at the time of the admission/transfer.

   d. Would be non-applicable if patient not admitted directly from acute hospital. A nursing evaluation should include all of the following:

      1) Patient's degree of independence in activities of daily living.
      2) Brief description of physical and indication of mental (or behavioral) status.
      3) Status of vision, hearing, speech, bladder and bowel control and/or if assistive devices--glasses, hearing aids, dentures--are required.

2. Physician's Care Plan and Orders

   a. If there are no specific diet instructions when indicated by the type of diet, answer no. For example, if other than regular or general diet ordered, amounts should be indicated; e.g., 1500 calorie ADA diet rather than diabetic diet.

      If diet ordered is non-specific in nature, e.g., regular, soft, general, answer yes.

   b. In the case of a patient who is comatose, or nearly terminal, this could be non-applicable.

      Statements such as "up in wheelchair," "ambulate in hall" are acceptable as activity instructions.

   c. If there are no specific plans for rehabilitation by nursing or special therapist then look for mention of poor or no rehabilitation potential.

   d. If one or more PRN's are ordered, or if there is a note concerning PRN meds, answer yes. If types of medications usually ordered as PRN's are ordered to be given routinely, consideration has been given.

   e. If services can be obtained by facility as ordered by physician even though usually not given in that facility answer yes.

3. Physician Follow-Up (not applicable to Admission Review)

   a. Answer yes if:

      the patient's level of care changed and the physician's plan of care changed or was re-evaluated within 7-10 days

      or

      the patient's condition remained relatively stable and the plan was re-evaluated at least once during a 6-month period

      or

      there are regular progress notes indicating ongoing evaluation.

      The plan of care generally will be found in progress notes but may in some instances be reflected in physician's orders.

      Documentation to indicate re-evaluation may be very brief, such as "Continue same" or "Plan reviewed" or "No changes."

   b. This would include appropriate lab work, x-rays, follow-up post-operative visits, etc. Look for such items as antibiotics ordered according to culture reports; x-rays ordered in orthopedic cases according to information on discharge or transfer reports; follow-up visits mentioned at time of hospital discharge actually made.

      If none of these things apply, relate care plan to orders and, if appropriate, answer yes.

      When appropriateness is questionable, take question to review physician.

      If one or more items which should have been ordered are missing, but some are present, answer partially.

   c. An urgent situation would include life threatening or other acute medical problem which requires the attention of the physician within the next 24 hours or sooner. For example: a patient's suddenly spiking a temperature of 104°; or observation that a patient's foot is dusky in color and there is no pedal pulse.

4. Nursing Care Plan

a. If the first review is made before one week following admission for Skilled Nursing A level or before two weeks following admission for Skilled Nursing B or ICF level, this item would be non-applicable.

An adequate nursing care plan, regardless of its format, indicates that the patient's needs have been assessed, problems identified, and possible solutions suggested. If the facility uses the problem oriented medical record, it usually will not have a separate nursing care plan.

Such items as the following may be considered:

Mobility status
Presence of deformities/handicaps
Mental status
Social and activity needs
Dietary requirements
Emotional and spiritual needs
Medical problems and care to be given
Rehabilitation plans
Nursing goals

Items to be considered, however, are not limited to this list.

In order to consider that there is a nursing plan, at least three items should be considered.

b. Patient care requirements according to patient's problems/needs should be specified in the nursing care plan taking into consideration such things as mentioned in the table of patient care items for consideration. Nursing care plan may be otherwise inadequate as per criteria in 4a.

For example: A patient with an indwelling catheter might have in plan "Irrigate Foley catheter with normal saline $\bar{q}$ 12 hours. Change catheter PRN when plugged. Not necessary to record intake and output."

(See list of Patient Care Requirements.)

If all the standard or usual patient care requirements are specified, answer yes. If no care requirements specific to the patient's primary diagnoses/problems are listed or if 4 or more are missing, answer no. If only one item is missed in any applicable category and the total is 3 or less, answer partially.

If the problem does not have an applicable list, discuss care requirements with your supervisor to determine if the patient's needs are being met.

Statements from the facility nurse may help in assessing patient's individual requirements.

PATIENT CARE ITEMS FOR CONSIDERATION

(may include but are not limited to the following)

DECUBITUS ULCERS, OPEN AREAS OF SKIN, INFECTED WOUNDS, OTHER SKIN AND SUBCUTANEOUS LESIONS

Cleansing of area; solutions to be used
Type of medication to be applied
Type of dressing to be applied
If on extremity, degree of pressure or tightness of bandage
Frequency of treatment
Documentation of Rx and description of lesion

INDWELLING CATHETER

Frequency of irrigation
Irrigation solution to be used
Frequency of catheter change
Documentation of urinary output
Bladder training plan, if indicated

COLOSTOMY/ILEOSTOMY

Frequency of emptying and changing bag
Frequency and type of dressing, if one needed
Patient training in procedure, if indicated
Type of skin preparations to be used, if indicated
Enemas and frequency

NASO-GASTRIC TUBE FEEDINGS

Formula and amount
Frequency of feedings
Changing of tube
Documentation of how feeding is taken
Need for suctioning after feeding

PARENTERAL FLUIDS

Relationship to oral fluids to be taken, if any (PRN)
Method
Type of solution
Frequency
Renewal of orders

TRACHEOSTOMY CARE

Frequency of suctioning
Cleansing and changing of canula

4. Nursing Care Plan (continued)

c. Answer yes if there was a change in the patient's level of care or if his individual adaptation changed his needs during the period between reviews and the nursing care plan was changed according to the time frame in a. above.

Change in adaptation to the facility may occur without actual change in level of care. Example: A patient who preferred to remain to himself and not participate in activities after admission may have been changed to a different room and roommate, may now be participating in activities, eating with others in the dining room, asking for reading materials, etc. The care plan should be changed accordingly in those areas.

Or if patient's condition, level of care, and adaptation to the facility (according to documentation) has remained stable, has the nursing care plan been reviewed and updated at least every one to two months? This should be answered yes only if there is a dated note in the specified time period and changes made, or note made that no changes in plan are needed.

If the patient has been in the facility a month or less and is expected to be a short term stay, if no change is indicated, answer N/A.

If 4a is no, 4c will also be no.

5. Nursing Care

a. Answer yes if:

all of the patient care requirements specified in the nursing care plan are being carried out

or if

there is no nursing care plan or one which does not include all care requirements (as per list) and it is nevertheless evident to the reviewer that the correct daily care is being given.

Answer no if two or more requirements in any applicable category are not met.

Answer partially if one item only is missing in any applicable category and the total is 3 or less.

If the problem does not have an applicable list, discuss care requirements with your supervisor to determine if patient needs are being met. Statements from the facility nurse may help in evaluating the patient's individual requirements.

b. For Skilled Nursing A level licensed nursing personnel should be charting on each shift in order to answer yes. Answer partially if charting is missed no more than 2 times in any 2-week period. If charting is missed 3 or more times in any 2-week period, answer no.

For Skilled Nursing B or ICF level, licensed nursing personnel should be charting at least once weekly in order to answer yes. Answer partially if charting is missed no more than 2 times in 3 months. If charting is missed more than 3 times in 3 months, answer no.

c. Observe or visit patient. If nursing notes generally verify what you observe and there is no obvious discrepancy, answer yes.

The reviewer must be cautious and objective in answering "no" to this question, but if there is a proven instance of a discrepancy, it should be answered "no." Taking a patient's word alone is not sufficient; there must be direct observation by a review coordinator.

Example: A.M. charting completed. Review coordinator on site in early afternoon. Nursing note reads: "Incision appears clean and dry. Dry sterile dressing applied." Review coordinator asks to see wound. She noted that the dressing looks as though it has been on for more than a day. Incision is inflamed and swollen, gaping open in two places and draining sanguinous material.

TRACHEOSTOMY CARE (continued)

Procedure for respiratory treatment via trach, tube
Which staff members to perform above
Type and frequency of dressing to be applied

PAIN THERAPY

Drugs to be given, dosage, method of administration
Frequency
Documentation

OXYGEN AND/OR INHALATION THERAPY

PRN orders for O_2, including rate of flow
Frequency of Inhalation Therapy
Medications to be used with inhalation therapy
Notation that patient may give own O_2 or Rx, if allowed

DIABETICS

Frequency of urine tests for sugar and acetone
If insulin treated, rainbow formula, or frequency of insulin
Notation regarding condition of extremities, if indicated
A.D.A. Diet specifications, if applicable
Frequency of lab work

SURGICAL WOUNDS

Type and frequency of dressings
Sutures--if present--when to be removed and by whom
Post-operative follow-up visit scheduling

NURSING REHABILITATION

Range of motion exercises
Active - passive exercises
Bowel - bladder training
Transfer training program
Progressive ambulation
Teaching activities of daily living

Note: As new problems arise, additional criteria will be developed and added to the list.

5. Nursing Care (continued)

Or--

Review coordinator observes patient up in wheelchair slumped to one side, moaning and asking to be returned to bed. She reports this to charge nurse and observes that no one attends to patient for more than one hour. A short time later she finds that this patient is one of her cases to be reviewed. She notes that there is an order for the patient to be "Up in wheelchair for short periods as tolerated," and that someone has just charted "Up in wheelchair for 15 minutes. Tolerated well."

d. Answer yes unless

1) Review coordinator notes error made in transcription of orders

or

2) Review coordinator is there when new orders are received and notes that they are not immediately (within one hour) transcribed onto patient's record

or

3) There is documentation that an order or orders were not picked up until the next shift or at some time later than that.

e. Answer no only if you observe variation or note documentation of variation in carrying out physician's orders with no reason given or order change documented.

f. Documentation of phone calls by nursing staff to physicians in order to verify orders not signed must be present. (Signed 48-hour verbal order slips are acceptable.)

g. Documentation of notification of physician and physician response must be present. Attempts to notify physician must be documented if not reached on first attempt.

6. Pharmaceutical

a. Compare physician's orders with medication records to verify.

b. Compare physician's orders with medication records to verify.

c. For example, if the physician has ordered an injectable form of an antibiotic and documentation is that the oral preparation is being given, there would be a "no" answer.

d. Non-acceptable variations could include such items as: q̄ 4 hour medications actually being given only q̄ id; q̄ 3 to 4 hour PRN medications being given every 2½ hours PRN; a.c. (before meal) medications being given after meals; q̄ other day, being given on wrong day.

If all medications are given at the specified frequency, answer yes.

If all medications are given at the specified frequency except for one, answer partially.

If two or more medications are given at other than the specified frequency, answer no.

e. Variations from accuracy could include such errors as: number of tablets given rather than the exact dosage contained in the tablet; name of drug or preparation without dosage; Gm. instead of mgm.; decimal point in wrong place, such as 75 mgm instead of 7.5 mgm. If drug has been discontinued, is it still being charted as though being given?

f. If situation does not occur, mark N/A.

g. For example, a rash on a patient receiving Penicillin; ataxia on a patient receiving Valium. If situation does not occur, mark N/A.

h. If the patient has been in the facility less than one month, answer N/A.

i. "Justified" means given only with a qualifying reason documented. PRN medications always given routinely need reason at time of each administration.

If one time only in a week PRN medication given without documentation, answer yes.

If two times in a week PRN medication given without documentation, answer partially.

If three or more times in a week PRN medication given without documented reason, answer no.

Do not include laxatives in this item.

j. "Promptly" would be within a time frame that would allow for the next scheduled time of dosage to be given.

7. Special Services

a. If the service ordered has been requested or started, or is being continued, answer yes.

b. For example: If patient will have need of skilled rehabilitative services after a medically predictable post-operative interval, has this been noted in the care plan?

c. Individual needs could include such items as:

Spiritual counseling
Social service
Financial assistance
Legal assistance
Recreational and occupational activities
Reality orientation
Shopping for personal items
Family involvement or attention
(But are not restricted to these)

If Patient Evaluation has identified personal needs and/or if Patient Care Plan includes individual characteristics or preferences, there should be reflection of this in the patient's medical record; i.e., Patient Evaluation notes that patient speaks only Spanish and likes to discuss his needs with someone in his native tongue. Corresponding note in record indicates that Spanish-speaking Nursing Aide communicates with him often, interpreting his needs to the rest of the staff.

If there is no reference to individual needs, answer no.

If there is reference to one individual need, answer partially.

If there is reference to two or more individual needs, answer yes.

d. If on patient care plan or other appropriate record there is mention of discharge potential and/or plan, answer yes. In addition, on long term care cases this note should be updated at least every 6 months. Also, if patient leaves facility for medical or clinical appointment, current appropriate information is sent with him.

If any of the above are not present, answer no.

e. Activity statement should appear in patient's medical record which indicates types of activities offered and patient response, if noted. For example: One would look for mention of the kinds of activities that a wheelchair-bound patient could participate in.

8. Patient's Environment

   a. An example of an unsafe situation would be a pool of urine on the floor beside the bed of a patient who gets in and out of bed by himself. If there is nothing obvious, answer is yes.

   b. Discount the possibility of odor of feces in an incontinent patient whom the staff are preparing to change. If none, answer yes.

   c. To answer yes there must be some personal belongings or identifying items in the unit or at least the patient's name posted on the unit.

9. Diet

   a. For example, endentulous patients should not be on Regular Diet.

   b. For example, if a Low Salt Diet has been ordered, the patient is not receiving a Regular Diet or has not been given a salt shaker on his tray.

   c. A patient who is unable to feed himself because of temporary or permanent disability is helped with feeding if he is able to manage part of his feeding by himself, or hand-fed if he would otherwise not be able to feed himself.

   d. "Required" means specifically ordered by physician. "Desirable" means that there are no contradictory diet or fluid orders or requirements and patient is malnourished, underweight, or appears dehydrated. Look for documentation to determine this. If neither required or desirable, mark N/A.

Appendix E

Costs of Review Form

PSRO ____________________

Please identify the number (full-time equivalent) and types of staff that participated in the LTC Demonstration Project after the program was geared up and most stabilized. Add staff members as needed.

This most stabilized time period was from __________ to _________.

Estimate the proportion of time devoted to various LTC activities in the program for each staff category. This should add up to 100 percent. (See Matrix 1 on page 2.) Include the yearly salary rate for each type of staff person for this time period.

If Continuing Stay Review and Concurrent Quality Review were performed simultaneously, bracket CSR and CQA and treat as one function in this matrix and throughout the questionnaire.

DEFINITIONS

1.	FTE	Full-time equivalents devoted to LTC.
2.	PAR	Preadmission Review--include time spent on completion of form; conferring with patient, staff, family and physician; monitoring; informal training and feedback.
3.	AR	Admission Review--include the same activities as for PAR.
4.	CSR	Continued Stay Review--include the same activities as PAR.
5.	CQA	Concurrent Quality Assurance--include the same activities as for PAR. Also include any activities unique to CQA. Include IPR and MR.
6.	EDUC	Education--include only formal education (e.g., workshops, seminars, courses) given by staff person.
7.	MCE	Medical Care Evaluation Studies/Patient Care Evaluation Studies/Special Studies--include time spent in designing the study, developing criteria, collecting information, analyzing results, and feedback.
8.	DATA	Include time spent analyzing data, developing profiles and norms.
9.	ADM	Administration--include administrative activities such as developing policies, procedure, staff development activities.
10.	OTHER	Identify and specify other major activities that are not included in the above.

1. PROPORTIONATE REVIEW ACTIVITIES

PSRO LTC STAFF		ESTIMATED PERCENT OF TIME LTC									TOTAL	SALARY RANGE (yr)
		Review										
	FTE	PAR	AR	CSR	CQA	Educ	MCE	Data	Adm	Other		
Exec Dir											100%	
Admin											100%	
LTC Dir											100%	
RC Sup											100%	
RC RN											100%	
SW											100%	
Other											100%	
Med Dir											100%	
Data Mgr											100%	
Consultant											100%	
Secretary											100%	
Clerk											100%	
Bookkeeper											100%	

2. On an average, how much time does it take a reviewer to perform each type of review? (Exclude appeals and reconsiderations.)

PAR ____________ minutes

AR ____________ minutes

CSR ____________ minutes

CQA ____________ minutes

OTHER ____________ minutes

Is this an estimate, or based on empirical data? ______________________

3. Indicate the number and type of Medicare reviews and their results during the project period on the matrix below.

Type of Review	NUMBER OF MEDICARE REVIEWS				
	RC Approved	RC Referred to PA	PA Denied	Case Appealed	Appeal Denied
PAR					
AR					
CSR					
CQA					

About how many patients are represented by the above Medicare reviews? ___________

Indicate the number and type of Medicaid reviews and their results during the project period on the matrix below.

Type of Review	NUMBER OF MEDICAID REVIEWS				
	RC Approved	RC Referred to PA	PA Denied	Case Appealed	Appeal Denied
PAR					
AR					
CSR					
CQA *					

About how many patients are represented by the above Medicaid reviews? ___________

*Include IPR and MR in CQA

PHYSICIAN ADVISORS

4. How many physician advisors did you obtain during the project demonstration period? _____

5. At what rate did you reimburse them? _____________

6. Did they perform activities other than direct review and conferring with attending physicians? ________

If yes, check:

Attend utilization review meetings ____

Attend other meetings ____

Other (specify) ____

____

____

7. About how long does it take a PA to review a case? ________________

8. Is this an estimate, or based on empirical data? ________________

FACILITY REIMBURSEMENT

9. Do you reimburse either hospital(s) or LTC facility(ies) for performing LTC reviews? _____ If yes, complete the following: (Specify reviewers other than RNs. Complete each cell with either rate reimbursed per review or per hour.)

DISCIPLINE	PAR	AR	CSR	CQA	RATE REIMBURSED
Review Coordinator RN					
Other					
Other					
Other					

10. Are there other kinds of activities for which you reimburse hospitals or LTC facilities for LTC activities? _______

If yes, complete the following:

ACTIVITY	TYPE OF PERSONNEL	RATE REIMBURSED (Per Activity or Hour) (indicate which)

COMMITTEES (Use multiple sheets)

Complete the following for each committee that participated in the LTC Demonstration project. Include LTC committees, subcommittees, and advisory groups.

NAME OF COMMITTEE ______________________________

How often did the committee meet during the project period? ______________

Usually, how long did the meeting last? ______________

Approximately what proportion of time was spend in LTC activities? ______________

11. Indicate the composition and reimbursement of committee members:

DISCIPLINE	NUMBER	REIMBURSEMENT RATE (if applicable) (Indicate per/hr or mtg.
MD		
RN		
SW		
PT		
OT		
Speech		
LTC Admin.		
Hosp. Admin.		
Activities Dir.		
Fiscal Inter. Rep.		
State Rep.		

12. About what proportion of the committee's time spent on LTC was spent on:

PAR ____% AR ____% CSR ____% CQA ____% Educ ____% Adm ____% Other ____% (Total 100%)

13. Are there volunteer activities (excluding committee meetings) that were a part of your LTC demonstration project? ________

If yes, complete the following:

ACTIVITY	PERSONNEL OR GROUP	APPROXIMATE AMOUNT OF TIME PER MONTH

ADMINISTRATIVE COSTS

14. List the total amount of administrative costs attributable to LTC during the project period:

	Amount
Office Space	_____
Supplies	_____
Postage	_____
Printing	_____
Telephone	_____
Travel	_____
Other (specify)	_____
____________________________	_____
____________________________	_____
____________________________	_____

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